

UGANDA PROTECTORATE.

---

**ANNUAL**

**MEDICAL AND SANITARY REPORT**

FOR THE

YEAR ENDED 31ST DECEMBER, 1931.

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Published by Command of His Excellency the Governor.

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ENTEBBE:

PRINTED BY THE GOVERNMENT PRINTER, UGANDA.

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MEDICAL DEPARTMENT,  
HEADQUARTERS OFFICE,  
ENTEBBE, UGANDA,  
*25th June, 1932.*



SIR,  
I have the honour to submit for the information of His Excellency the Governor  
and for transmission to the Right Honourable the Secretary of State, the Medical  
Report on the Health and Sanitary Conditions of the Uganda Protectorate for the year  
1931, together with the Returns, etc., appended thereto.

I have the honour to be,

Sir,

Your obedient servant,

**G. R. H. CHELL,**

*Acting Director of Medical and Sanitary Services.*

THE HONOURABLE

THE CHIEF SECRETARY TO THE GOVERNMENT,

ENTEBBE.

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MAP OF  
UGANDA PROTECTORATE

Scale of Miles  
0 10 20 30 40 50 60 70 80 90







# MEDICAL AND SANITARY DEPARTMENT.

## ANNUAL REPORT

FOR THE YEAR ENDED 31ST DECEMBER, 1931.

### SECTION I.

#### ADMINISTRATION.

##### (A) Staff.

###### PRINCIPAL APPOINTMENTS, PROMOTIONS, CHANGES, ETC.

###### *Appointments :—*

						<i>Date.</i>
Dr. A. J. Garde, Medical Officer	...	...	...	...	...	13-3-31
Dr. H. G. Floyd, Medical Officer	...	...	...	...	...	26-3-31
Dr. W. A. Wilson, Medical Officer	...	...	...	...	...	26-3-31
Dr. L. J. A. Loewenthal, Medical Officer	...	...	...	...	...	10-4-31
Dr. A. H. Mowat, Medical Officer	...	...	...	...	...	10-4-31
Dr. A. W. Williams, Medical Officer	...	...	...	...	...	15-8-31
Mrs. H. M. Twining, Medical Officer (temporary appointment)	...	...	...	...	...	14-3-31

###### *Acting Appointments :—*

	<i>From.</i>	<i>To.</i>
Dr. J. D. Reynolds, Medical Officer, Acting Resident Surgical Officer	6- 5-30	.. 20-1-31
Dr. M. Turton, Senior Bacteriologist, Acting Deputy Director of Laboratory Service	1- 1-31	...End of year
Dr. J. C. St. G. Earl, Health Officer, Acting Senior Health Officer, Kampala	15-1-31	... 20-3-31
Dr. R. S. McElroy, Health Officer, Acting Senior Health Officer, Kampala	21-3-31	... 17-9-31
Dr. S. W. T. Lee, Senior Health Officer, Acting Deputy Director of Sanitary Service	26- 3-31	... 17-9-31
Dr. J. C. St. G. Earl, Health Officer, Acting Senior Health Officer	26- 3-31	... 17-9-31
Mr. W. O. Tindall, Assistant Superintendent and Dispenser, Acting Superintendent, Native Hospital and Asylum, Hoima	1-11-29	... 19-3-31
Mr. C. Chorley, Pharmacist, Acting Medical Storekeeper in addition to his duties of Pharmacist	26- 3-31	... 26-11-31
Major R. J. A. Macmillan, D.S.O., T.D., Senior Medical Officer, Acting Deputy Director of Medical Service	2- 4-31	... 5-11-31
Miss I. Baillie, A.R.R.C., Nursing Sister, Acting Senior Nursing Sister	11- 4-31	...End of year
Dr. H. R. Neilson, Senior Health Officer, Acting Deputy Director of Sanitary Service	18- 9-31	... 7-12-31
Dr. J. C. St. G. Earl, Health Officer, Acting Senior Health Officer	18- 9-31	... 7-12-31
Dr. S. Forrest, Medical Officer, Acting Senior Medical Officer, Jinja	24-12-31	...End of year
Dr. J. C. St. G. Earl, Health Officer, Acting Senior Health Officer	24-12-31	...End of year

*Termination of Appointments :—*

					<i>Date.</i>
Dr. J. C. Caldwell, Medical Officer	...	...	...	...	1- 9-31
Miss J. F. Sneddon, Nursing Sister	...	...	...	...	13- 2-31
Miss F. M. Wills, Nursing Sister	...	...	...	...	16- 9-31
Miss E. E. B. Thompson, Nursing Sister	...	...	...	...	6-10-30
Mr. M. S. Nawaz Ahmed, Sub-Assistant Surgeon	...	...	...	...	14- 8-31
Mr. B. D'Souza, 4th grade Clerk	...	...	...	...	1- 9-31

*Change of Title :—*

Mr. R. J. Wilkinson, European Supervisor of African Inspectors, to be Sanitary Inspector	...	...	...	...	1- 1-31
--	-----	-----	-----	-----	---------

*Retirements :—*

Miss N. M. Adams, Senior Nursing Sister	...	...	...	...	20-10-31
Mr. A. E. Baker, Laboratory Assistant	...	...	...	...	7-10-31

*Resignations :—*

Miss E. M. Christian, Nursing Sister	...	...	...	...	26- 1-31
--------------------------------------	-----	-----	-----	-----	----------

*Leave :—*

The following were on leave during the period stated opposite their names :—

			<i>From.</i>	<i>To.</i>
Mr. C. H. Marshall, F.R.C.S., Resident Surgical Officer	...	...	1- 1-31	15- 1-31
Dr. N. C. Macleod, Malaria Officer	...	...	1- 1-31	16-12-31
Dr. S. Forrest, Medical Officer	...	...	1- 1-31	27- 8-31
Dr. R. E. Barrett, Medical Officer	...	...	1- 1-31	18-11-31
Dr. A. F. Brown, Medical Officer	...	...	1- 1-31	26-12-31
Dr. R. V. Bowles, Medical Officer	...	...	1- 1-31	30- 9-31
Dr. R. S. McElroy, Health Officer	...	...	1- 1-31	11- 3-31
Dr. H. R. Neilson, Senior Health Officer	...	..	17- 1-31	11- 9-31
Dr. N. J. Willans, Assistant Bacteriologist	...	...	29- 1-31	16-12-31
Dr. J. D. Reynolds, Medical Officer	...	...	14- 2-31	16-12-31
Dr. G. Louw, Medical Officer	...	...	8- 3-31	26-10-31
Dr. J. C. Caldwell, Medical Officer	...	...	14- 3-31	31- 8-31
Dr. W. L. Webb, Deputy Director of Medical Service	...	...	7- 4-31	31-10-31
Dr. G. R. H. Chell, Deputy Director of Sanitary Service	...	...	7- 4-31	26-11-31
Dr. A. H. Maclean, Medical Officer	...	...	7- 4-31	31-10-31
Dr. L. D. Dennard, Medical Officer	...	...	23- 4-31	26-12-31
Dr. J. M. Gray, Medical Officer	...	...	23- 4-31	18-11-31
Miss M. Holliday, Medical Officer	...	...	6- 5-31	26-12-31
Dr. R. S. F. Hennessey, Assistant Bacteriologist	...	...	29- 8-31	... End of year
Dr. J. S. Brown, Medical Officer	...	...	29- 8-31	... End of year
Dr. J. McDaniel, Medical Officer	...	...	4-11-31	... End of year
Dr. A. R. D. Adams, Protozoologist	...	...	4-11-31	... End of year
Dr. N. Bligh-Peacock, Medical Officer	...	...	19-12-31	... End of year
Dr. W. L. Peacock, Senior Medical Officer	...	...	30-12-31	... End of year
Dr. S. W. T. Lee, Senior Health Officer	...	...	30-12-31	... End of year
Dr. A. A. Battson, Medical Officer	...	...	30-12-31	... End of year
Dr. E. N. Cook, Medical Officer	...	...	4-12-31	... End of year
Miss J. F. Sneddon, Nursing Sister	...	...	1- 1-31	12- 2-31
Miss G. R. Ibbs, Nursing Sister	...	...	1- 1-31	2- 7-31
Miss B. B. Edwards, Nursing Sister	...	...	1- 1-31	19- 6-31
Miss N. M. Adams, Senior Nursing Sister	...	...	18- 4-31	19-10-31
Miss F. M. Wills, Nursing Sister	...	...	21- 5-31	15- 9-31
Miss D. B. Reeves, Nursing Sister	...	...	30-12-31	... End of year
Mr. E. S. Smout, Superintendent Hoima Hospital and Asylum	...	...	1- 1-31	6- 5-31
Mr. C. Chorley, Pharmacist	...	...	1- 1-31	21-2-31
Mr. E. G. Gibbins, Laboratory Assistant	...	...	1- 1-31	4- 6-31
Mr. J. S. McDonald, Laboratory Assistant	...	..	1- 1-31	21- 2-31
Mr. R. J. Wilkinson, Sanitary Inspector	...	...	1- 1-31	9- 4-31
Mr. G. Gillanders, Sanitary Inspector	...	...	12- 8-31	... End of year
Mr. A. E. Baker, Laboratory Assistant	...	...	17- 1-31	6-10-31
Mr. C. M. Day, Assistant Superintendent and Dispenser	...	...	17- 1-31	3-10-31
Mr. P. J. L. Waters, Medical Storekeeper	...	...	7- 4-31	18-11-31
Mr. V. B. Pandit, Sub-Assistant Surgeon	...	...	1- 1-31	18- 3-31
Mr. M. L. Bali, Sub-Assistant Surgeon	...	...	1- 1-31	19- 2-31
Mr. K. C. Kapur, Sub-Assistant Surgeon	...	...	1- 5-31	29-10-31
Mr. Ghulam Haider, Sub-Assistant Surgeon	...	...	5- 8-31	... End of year
Mr. Achhru Ram, Rai Sahib, Civil Surgeon	...	...	13-11-31	... End of year
Mr. S. M. Gomes, 2nd grade Clerk	...	...	1- 1-31	6- 3-31
Mr. E. M. D'Sonza, 3rd grade Clerk	...	...	1- 1-31	16- 4-31
Mr. J. A. Fernandes, 3rd grade Clerk	...	...	30- 9-31	... End of year
Mr. J. B. George, Cook, European Hospital	...	...	25-11-31	... End of year



**(B) List of Ordinances Affecting Public Health, etc., enacted during the year.**

- No. 1 of 1931—An Ordinance to amend the Medical Registration Ordinance.  
 No. 10 of 1931—The Drugs and Poisons Ordinance, 1931.  
 No. 13 of 1931—The Sleeping Sickness (Amendment) Ordinance, 1931.

**REGISTRATION OF MEDICAL PRACTITIONERS AND DENTISTS.**

The Ordinance governing registration came into force on the 1st July, 1913, since when and up to the 31st December, 1931, the following have been placed on the Register:—

Registered Medical Practitioners	...	...	...	159
Registered Medical Practitioner and Dentist	...	...	...	1
Dentists	...	...	...	6
Licensed Medical Practitioners	...	...	...	76

The numbers actually on the Register on the 31st December, 1931, were as follows:—

Registered Medical Practitioners	...	...	...	91
Registered Medical Practitioner and Dentist	...	...	...	—
Dentists	...	...	...	6
Licensed Medical Practitioners	...	...	...	35

**REGISTRATION OF MIDWIVES.**

The Ordinance governing registration came into force on the 31st March, 1927, since when and up to the 31st December, 1931, the following have been placed on the Register:—

Europeans and Asiatics	...	...	...	...	53
Africans	...	...	...	...	136

**(C) Financial.**

The expenditure of the Medical Department during the year amounted to £162,956 18s. 33cts. (*vide* Table II of returns), a decrease of £1,458 12s. 55cts. on the expenditure for 1930. The decrease is accounted for by the fact that the expenses of the Human Trypanosomiasis Institute are no longer borne by the Department. There was an increase of £2,947 0s. 30cts. in the expenditure on the remaining services accounted for by the normal growth of departmental activities.

The total expenditure represents 11·6% of the total revenue of the Protectorate and a similar percentage was reported in 1930.

The revenue of the Department for 1931 amounted to £16,612 15s. 45cts., an increase of £2,561 15s. 45cts. over that of 1930. This is the largest revenue yet recorded by the Medical Department. The increase was confined to the headings: Hospital fees, Sales of medicine, and Contributions from Native Administrations towards the cost of sub-dispensaries. There was a decrease in the reimbursements from Kenya and Uganda Railways and Harbours on account of medical and sanitary services.

## SECTION II.

### PUBLIC HEALTH.

#### (A) General Remarks.

The returns for the year 1931 set out in the table below show a general increase over the returns of previous years.

	1928.	1929.	1930.	1931.
New cases ...	548,163	613,489	642,349	661,658
Medical examinations ...	—	40,813	88,982	351,751
Admitted to wards ...	21,452	25,375	29,063	28,525
Total attendances ...	2,275,725	2,590,394	2,762,948	2,842,769
Surgical operations ...	2,707	2,563	2,799	3,850

The full returns for the year appear in Table F, page 34.

The large increase in the number of medical examinations is due to the fact that a leprosy survey was undertaken of the inhabitants of several districts, principally in the Eastern and Northern Provinces. The results of this survey are set out on page 29 of this report. The inhabitants of the Sleeping Sickness areas in North Gulu and the West Nile districts were examined for signs of the disease as a routine measure of control.

The small decrease in the number of admissions to wards is due to a decrease in the number of admissions at sub-dispensaries. The number of cases admitted to the wards of district hospitals shows an increase over previous years.

The record of new cases by sexes shows that the males numbered 413,707 and the females 247,951. The proportion of women seeking treatment has increased, and this is regarded as evidence of the growth of confidence on the part of the natives in the value of medical treatment.

Cases by race are set out below :—

	Total Cases.	Admissions.
European ...	3,291	428
Asiatic ...	7,883	782
African ...	650,484	27,315
	661,658	28,525

The following table indicates the number of European and Asiatic officials and non-officials who sought treatment during the last three years :—

	1929.	1930.	1931.
European officials ...	1,410	1,652	2,088
European non-officials ...	1,126	1,178	1,203
Asiatic officials ...	4,085	3,812	3,388
Asiatic non-officials ...	5,034	4,452	4,495
Total Europeans ...	2,536	2,830	3,291
Total Asiatics ...	9,119	8,264	7,883
Total officials ...	5,495	5,464	5,476
Total non-officials ...	6,160	5,630	5,698

The figures given above for officials include the wives and families of officials. For fuller tables see page 22.

*Hospitals* —The following are the principal alterations and improvements which have been carried out at hospitals during the year :—

The new Asiatic ward attached to the European Hospital, Kampala, was completed, but not opened by the end of the year. When opened this will constitute one of the first Government group hospitals to be established in East Africa.



The new out-patient department at the Native Hospital at Mulago was completed and, although not fully equipped, is in use. The building is large and roomy, affording ample accommodation for special clinics and for tutorial work in connection with the training of the African pupils of the Medical School and of African attendants.

A permanent hospital unit was completed and opened at Kabale in the Kigezi district.

*Sub-Dispensaries.*—The number of sub-dispensaries was increased during the year from 66 to 78. Actually 15 new sub-dispensaries were opened but three institutions which have formerly been regarded as sub-dispensaries were withdrawn from the list. Two of the new sub-dispensaries were built in the Buganda Province, five in the Eastern Province, seven in the Northern Province, and one in the Western Province. Several of the new sub-dispensaries were accounted for by the conversion of pre-existing gland examination posts or treatment centres. A full list of sub-dispensaries appears in Section VI of this report.

A marked feature of the year has been the initiation in the Eastern Province of a policy, adopted by the Native Governments concerned under the advice of the Provincial Commissioner, by means of which hospital units built of permanent material have been substituted in certain places for the small semi-permanent or temporary buildings which had previously served as sub-dispensaries. Each unit consists of a double ward, an out-patient department, an operating theatre, quarters for a senior African medical assistant, laundry, cook-house and other essential out-houses, all built in cement blocks with corrugated iron roofs. Two such units have been completed and opened, one in the Lango district and one in the Busoga district, whilst three more are under construction in the Eastern Province. The whole of the cost has been met from funds provided by the Native Administrations and the policy marks a very great advance in the system of bringing medical relief within the reach of native populations by means of sub-dispensaries.

A comparison of the work undertaken at sub-dispensaries during the last three years is given below:—

		1929.		1930.		1931.
Total new cases treated	...	333,946	...	344,584	...	407,893
Total attendances	...	1,483,330	...	1,543,916	...	1,804,329
Number admitted to wards	...	4,990	...	6,813	...	5,586
Average daily number in wards	...	253	...	300	...	230

The reduction in number of cases admitted to wards and of the average number in wards is due to the fact that an endeavour is being made to exclude all returns of in-patient admissions from sub-dispensaries, the standard of in-patient treatment of which is not comparable with that obtaining at district hospitals. Sub-dispensaries are now responsible for over 60 per cent. of the total out-patient treatment afforded in the Protectorate. In 1929, the proportion of treatment at sub-dispensaries was only just over 50 per cent.

It appears desirable to indicate the type of treatment which is available at sub-dispensaries. Each sub-dispensary is under the charge of an African who has received training as a medical attendant for a period of a year at Mulago Hospital, or equivalent training at the station hospital of his own district, and who has had experience as a medical attendant under the supervision of a Medical Officer for a period of at least three years. These attendants are able to diagnose common diseases with fairly reasonable accuracy and to carry out standard methods of treatment for their relief. They are competent to recognise Syphilis, Yaws and Leprosy and to administer, with reasonable discretion, specific drugs for the cure of these conditions by intravenous, intramuscular or sub-cutaneous injection. They keep written records of treatment administered to patients on case sheets. Periodic visits, usually weekly when this is possible, are made by District Medical Officers who check the treatment administered, see new cases of interest and give advice and instructions with regard to future treatment of old and new cases. Cases requiring hospital treatment are taken back by car by the visiting Medical Officers to the district hospitals, or to sub-dispensaries where in-patient treatment is obtainable, minor operative measure such as the scraping of ulcers may be undertaken by the Medical Officer on the spot.



These sub-dispensaries are really village institutions and as such play an important part in the life of rural populations, and I quote as an illustration the following extract from a report of a tour recently undertaken by Dr. W.L. Webb, the Deputy Director of Medical Service:—

“Whilst I was at Gulu, I took the opportunity of going north to inspect Attiak sub-dispensary and the sub-dispensaries and gland examination posts in the Madi district lying to the east of the Nile. The attendant in charge of Attiak sub-dispensary was a local native, an Acholi, English speaking, smart and intelligent. He told me that a great number of the villagers were coming to his dispensary for scorpion stings as they found his medicine so very much more effective than their own. I enquired what treatment he gave and it seemed that he made an incision through the sting, painted it with iodine and rubbed in crystals of potassium permanganate. I was much impressed by his ingenuity in applying a snake-bite cure for scorpion stings. He assured me that relief was obtained in a few minutes.

“On my way from Attiak to Ajumani I visited Zaipi, a former gland-examination post now being used as a sub-dispensary. Two years ago when I was touring in the Madi and Aringa sleeping sickness areas on the west of the Nile, I saw several of these gland-examination posts designed for the routine examination of inhabitants for signs of sleeping sickness. They were poor affairs, undertaking no other work but examination, and although most of them seemed to straddle main native tracks, they were dealing with two and three people a day only, the majority of the travellers taking care to avoid them. I then remarked to the District Medical Officer that these posts would be more effective as a means of detection and control of sleeping sickness if they attracted the native instead of repelling him, and I suggested that he should try to establish them as treatment centres. The suggestion was adopted, and Zaipi was the first of the re-organized posts that I had had the opportunity of visiting. The building itself was poor, little more than a rectangular hut. The surrounding country is very wild and inhabitants few and scattered. I was surprised to find any medical activities here at all. The attendant was a local Acholi and rather uncouth. His dispensary was a single room built in mud and wattle. On the walls were graphic illustrations made by the District Medical Officer of the life history of *Dracunculus* and how to avoid infection, and similar simple illustrative examples of other diseases, very suitable to the local native.

“The attendant kept books and case sheets and was treating yaws with intramuscular injections of bismuth and intravenous injections of arsphenamine as well as treating simple diseases and local infections and injuries. Twenty-five to thirty people came to him daily for treatment, a very good attendance considering the sparsity of people. Two or three patients who had found the walk from their villages to the dispensary irksome, had built huts in close proximity.

“The difference between this and the old isolated and avoided gland examination post in 1929 was very marked.

“I have gone into this rather at length, because I think it emphasises the importance of the part in preventative medicine played by sub-dispensaries.

“There are seven converted gland posts, two sub-dispensaries and a headquarters hospital now in the Madi and Aringa sleeping sickness areas and between them they observe the whole population for signs of sleeping sickness by voluntary attendance and without compulsion.”

*Deaths in Hospital.*—The principal causes of death in hospitals during the last five years are set out below:—

		1927.		1928.		1929.		1930.		1931.
Pneumonia	...	165	...	216	...	294	...	313	...	274
Accidents	...	118	...	117	...	142	...	137	...	116
Plague ...	...	64	...	44	...	123	...	50	...	19
Syphilis	...	57	...	56	...	63	...	69	...	48
Dysentery	...	116	...	116	...	60	...	21	...	37
Malaria ...	...	46	...	61	...	50	...	80	...	81
Tuberculosis	...	36	...	42	...	34	...	44	...	56
TOTAL DEATHS	...	1,111	...	1,220	...	1,314	...	1,356	...	1,280

*Medical Staff.*—Provision was made in the estimates for 53 Medical and Health Officers and as there were no vacancies on establishment it, therefore, became possible to provide adequate staff for all stations with the exception of the Karamoja district.

The staff of Nursing Sisters numbered 26, and in addition to maintaining the hospitals at Kampala, Mulago, Jinja and Mbale, Sisters were posted to district hospitals at Masaka, Hoima and Soroti.

Towards the end of the year, on account of the financial depression, it became necessary to withdraw a number of Medical Officers and Nursing Sisters. In this connection it is with regret that I report the voluntary retirement of Major R. J. A. Macmillan, D.S.O., T.D., who has acted as Deputy Director of Medical Service for a period amounting to over three-and-a-half years. His departure is a loss to the service.



*Sanitation Staff.*—The appointment of a second Senior Health Officer, Dr. Lee, was made during the year.

Arrangements have been made during the year for the Sanitation staff to be increased by two Health Officers and three European Sanitary Inspectors as from the 1st January, 1932.

*Laboratory Service.*—The Laboratory Service was transferred from Entebbe to a building at Mulago Hospital, Kampala, specially converted for that purpose. The Annual Report of the Laboratories Division appears as a section of this Report.

A reduction in establishment of one Deputy Director of Laboratory Service and two Laboratory Assistants has been entailed by the financial situation, and will be effected as from the 1st January, 1932.

The Entomological Section consisting of one Medical Entomologist, one Laboratory Assistant and one Laboratory Apprentice will be transferred to the Agricultural Department on the 1st January, 1932.

The Malaria Officer will be transferred to the Sanitation Division on the 1st January, 1932.

*Sleeping Sickness.*—The number of cases of sleeping sickness reported shows a satisfactory decrease, as is shown in the following table:—

				1929.		1930.		1931.
Cases	...	...	...	3,349	...	727	...	513
Deaths	...	...	...	78	...	51	...	117

The increase in the number of deaths shown is more apparent than real. Only 23 cases are known to have died from the disease. The remaining 94 were cases who at one time or another had had sleeping sickness and who died in their own homes from intercurrent disease in many cases.

*Re-population of Sese Islands.*—The recommendations of the late Specialist Officer, Sleeping Sickness, Dr. Carpenter, M.B.E., in connection with clearings have been carried out. All islands have been systematically inspected by Dr. Lee, who has assumed some of Dr. Carpenter's functions. It is gratifying to report that in spite of the progress of re-population not one single case of sleeping sickness has occurred amongst the islanders. The Honourable the Provincial Commissioner, Buganda, is arranging, in collaboration with the Deputy Director of Sanitary Service, for further re-population of these islands.

*Island Clearings.*—These have been well maintained and adequate protection from risk from tsetse fly is given by them. Owing to the financial situation a reduction in expenditure upon sleeping sickness clearings has been necessary. The Deputy Director of Sanitary Service is satisfied, however, that no undue risk is at present being assumed and that during the immediate future in view of the financial depression the reduction in expenditure upon clearings is warranted.

*Madi and West Nile.*—The situation in these districts during the past year has been remarkable and the reduction in incidence of sleeping sickness is striking. This satisfactory situation is due to the permanent posting of one Medical Officer at Moyo and of two Sleeping Sickness Medical Officers at Aringa and Pai-Ida in the West Nile district.

I have to express my regret at the omission to refer to Dr. Carpenter's retirement last year. His service to the country was of very great value and measures for the control and prevention of sleeping sickness recommended by him have been of greatest service to this Protectorate.

*Vital Statistics.*—The 1931 census revealed considerable variation in some districts with the populations recorded in the Blue Book, 1930. These differences are reflected in the birth and death rates for the years 1930 and 1931. The birth and death rates for the whole Protectorate show a satisfactory improvement, but variation occurs in the district rates.



*Government Prisons, Kampala.*—The death rate for Kampala and Luzira gaols for the last four years is set out below and the striking decrease in the rate over these years is directly attributable to the activities of the Medical Superintendent, Mulago, Dr. J. P. Mitchell, and the other medical staff:—

<i>Year</i>						<i>Death rate per 1000 (Kampala and Luzira Gaols).</i>
1928	...	...	...	...	...	86·17
1929	...	...	...	...	...	37·03
1930	...	...	...	...	...	30·62
1931	...	...	...	...	...	14·98

*Medical School.*—Five fifth-year medical students sat for their final examination at the end of the year and four passed.

An amendment to the Medical Registration Ordinance was passed in Legislative Council in April, whereby Senior African Medical Assistants may be licensed as Medical Practitioners in the Protectorate. This marks perhaps the most important event which has yet occurred in the history of the Medical School and accords to the finished products of the school a status commensurate with their professional knowledge and equivalent to that of the Asiatic Sub-Assistant Surgeons.

The names of the seven Senior African Medical Assistants who had passed their final examinations in previous years were placed upon the Medical Register. They were employed in the following capacities during the year:—One acted as tutor and lecturer to the medical attendants (lower grade) at Mulago hospital. One assumed charge, under the supervision of a Medical Officer of the Venereal Diseases Clinic at Mulago hospital. One was posted as resident medical assistant at the Central Government Gaol, Luzira. Four were posted to the district hospitals of Moyo, Fort Portal, Gulu and Mbale, and in three instances undertook duties which have previously been performed by Sub-Assistant Surgeons. Satisfactory reports on their work were received in all cases.

The training of male and female attendants was continued at Mulago, and candidates who were successful in passing their examinations were posted to districts in several cases. It is satisfactory to note that natives from nearly all the different tribes are being received at Mulago for tuition with a view to doing duty in their own tribal areas after the completion of their training.

It is with great regret that I refer to the impending retirement of Dr. H. B. Owen, D.S.O., the first Principal of the Uganda Medical School. His contribution to this enterprise and to the medical service has been outstanding and he takes with him the best wishes of the Department upon his well earned retirement.

*Acknowledgments.*—It is a pleasure to express my deep obligation to \*Dr. Albert Cook, C.M.G., O.B.E., and \*Mrs. Cook, O.B.E., for their invaluable work in connection with maternity training, also to the Reverend Mother Kevin, M.B.E., in the same connection.

I record with pleasure also my great obligation to Dr. Sharp and his Nursing Sisters, Miss Langley and Miss Norton, for their devoted service to the cause of leprosy in Kigezi, and to Drs. Wiggins and Hunter and their staff for their leprosy work in Teso.

I wish to record also my indebtedness to the British Empire Leprosy Relief Association, London, for their assistance and co-operation throughout the year, and in this connection I wish to thank all the members, both non-official and official, of the Uganda Branch Committee of the British Empire Leprosy Relief Association for their advice and assistance.

**G. J. KEANE,** MAJOR,  
*Director of Medical and Sanitary Services.*

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\* Now Sir Albert Cook and Lady Cook.

## I. GENERAL DISEASES.

*Epidemic, Endemic and Infectious Diseases.*—The number of cases and deaths recorded in this group for the last three years is set out below:—

			Total Cases of all Diseases.	Epidemic, Endemic and Infectious Diseases.			
				Cases.	Deaths.		
1929	...	...	584,878	...	197,643	...	465
1930	..	...	621,920	...	181,981	...	426
1931	...	...	661,658	...	193,005	...	397

The increase in the number of cases over last year is relatively less than the increase of total cases.

*General Diseases.*—There were 39,869 cases recorded compared with 34,453 cases in 1930. The deaths under this group were 30 in both years.

68 cases of cancer were diagnosed with thirteen deaths compared with 91 cases and nine deaths last year.

No cases of pellagra were reported, one was reported in 1930, none in 1929 and 105 in 1928. It would thus appear that the control of this disease has been effected by improvements in prison dietaries and conditions.

Three cases of beri-beri and eight of rickets were reported.

*Affections of the Nervous System and Organs of the Senses.*—The figures for this group and its principal divisions for the last three years are set out below:—

			1929		1930		1931
Conjunctivitis	...	...	26,725	...	26,980	...	29,749
Trachoma	...	...	2,898	...	3,903	...	4,489
Otitis Media	...	...	4,208	...	6,409	...	7,284
Total group	...	..	49,073	...	53,331	...	60,269

The deaths under this group were 35 compared with 41 in 1930.

*Affections of the Circulatory System.*—2,996 new cases presented themselves for treatment and 45 deaths in hospital were recorded. There were 3,238 cases with 37 deaths in the previous year.

*Affections of the Respiratory System.*—The number of cases recorded in this group is less than those recorded in the two previous years. There has been a corresponding decrease in the number of deaths in hospital recorded, and similarly the number of cases and deaths from pneumonia has decreased.

			1929		1930			1931		
			Cases.	Deaths.	Cases.	Deaths.		Cases.	Deaths.	
Pneumonia	...	...	3,020	294	3,483	313	...	2,802	274	...
Total group	..	...	84,539	321	92,304	345	...	83,172	290	...

*Diseases of the Digestive System.*—87,289 cases with 133 deaths are recorded this year. There were 80,516 cases and 102 deaths last year.

*Diseases of the Genito Urinary System.*—There were 2,473 cases and 40 deaths during the year compared with 2,602 cases and 39 deaths in 1930. Diseases of the kidney accounted for 28 of the deaths.

*Puerperal State.*—A considerable increase under this group is made apparent in the following table:—

			1929		1930		1931
Cases of ante-natal supervision	...	...	954	...	2,753	...	3,760
Cases admitted to hospital for childbirth	...	...	318	...	472	...	620
Total group	...	...	1,828	...	3,750	...	4,753

The increase in this group is particularly satisfactory as so much can be done for the women if they can only be induced to submit to supervision during their pregnancy and enter hospital for labour.



*Affections of the Skin and Cellular Tissue.*—A considerable increase is noted in this group, 109,522 cases with 51 deaths compared with 87,188 cases and 56 deaths in 1930. The increase is principally accounted for by the increase in the number of cases of ulcers which presented themselves for treatment, 53,828 in 1931 and 35,652 in 1930.

*Diseases of the Bones and Organs of Locomotion.*—There were 2,195 cases in 1931 and 2,069 in 1930.

*Malformations.*—Seven cases are recorded.

*Diseases of Infancy.*—There were 929 cases recorded during the year, of whom 640 were normal living babies born to mothers attending as ante-natal cases or admitted to wards for labour. There were 63 deaths, which includes 44 babies still-born in wards.

*Diseases of Old Age.*—18 cases were recorded.

*Affections Produced by External Causes.*—The number of cases is less than last year, 72,761 compared with 76,652.

*Ill-defined Diseases.*—898 are recorded.

The percentage incidence of groups of diseases for the last six years is given below :—

	1926	1927	1928	1929	1930	1931
Epidemic, Endemic and Infectious ...	29.5	30.9	33.2	33.6	29.3	29.2
General ...	4.9	4.2	4.0	5.3	5.5	6.0
Nervous System ...	8.6	9.6	9.1	8.4	8.6	9.2
Respiratory System ...	14.1	12.4	13.6	14.5	14.9	12.6
Digestive System ...	13.9	13.7	13.4	13.3	12.9	13.2
Skin and Cellular Tissue ...	12.8	14.5	11.0	10.7	14.0	16.5
External Causes ...	11.3	10.9	10.5	12.1	12.3	11.0
Others ...	4.3	3.8	5.2	2.1	2.5	2.3

## II. COMMUNICABLE DISEASES.

### (a) MOSQUITO OR INSECT-BORNE.

*Trypanosomiasis.*—471 proved cases and 42 suspected cases were reported, compared with 638 proved and 89 suspected cases in 1930. Nine deaths from sleeping sickness occurred in hospitals and 14 in locations or camps. 94 deaths occurred in the districts amongst natives who had contracted sleeping sickness at one time. Most of these deaths were attributed to intercurrent disease.

A full report is given in Appendix No. IV.

*Plague.*—71 cases attended Government hospitals or dispensaries, 22 were admitted to wards and 19 of these died. A detailed report of this disease will be found at page 27. The total number of *reported* deaths throughout the Protectorate since 1920 is set out below :—

1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
1,732	5,871	1,305	914	810	869	1,589	1,863	1,174	5,118	2,370	2,299

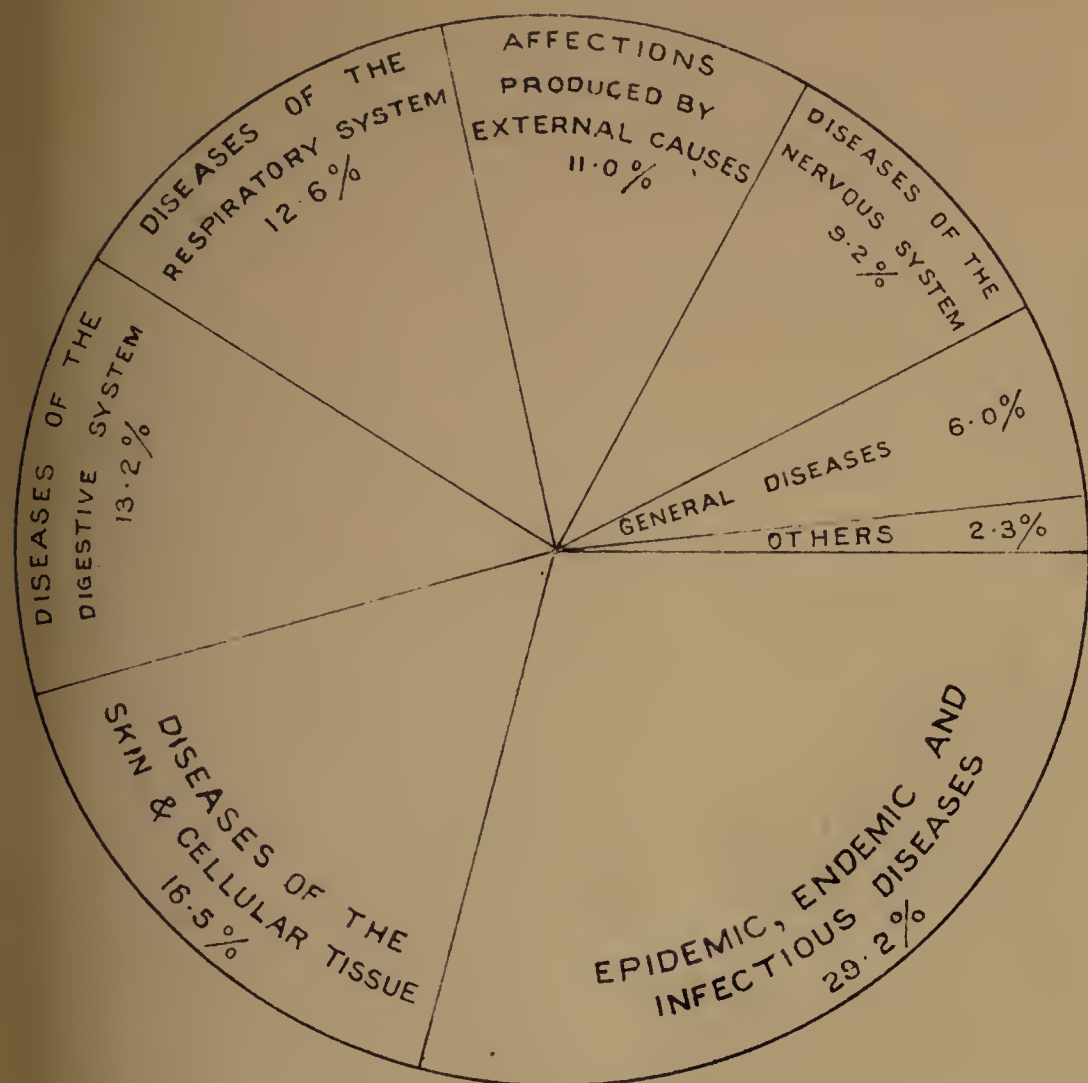
*Blackwater Fever.*—113 cases of blackwater fever were treated by Government Medical Officers. 34 were admitted to hospitals and eight died. The total number of cases reported throughout the Protectorate, treated by Government Medical Officers and private practitioners, was 162 with 43 deaths. The corresponding figures for last year were 147 cases and 36 deaths.

A special report on this disease forms the subject of Appendix No. III.

*Relapsing Fever.*—871 cases and 12 deaths were reported compared with 884 cases and 20 deaths in 1930. 500 of the cases occurred in the Western Province and 365 in Buganda Province. Whilst the numbers of cases in the Western Province have decreased those in Buganda Province have increased. The increase is mainly due to cases reported from sub-dispensaries in the Masaka and Mubende districts.

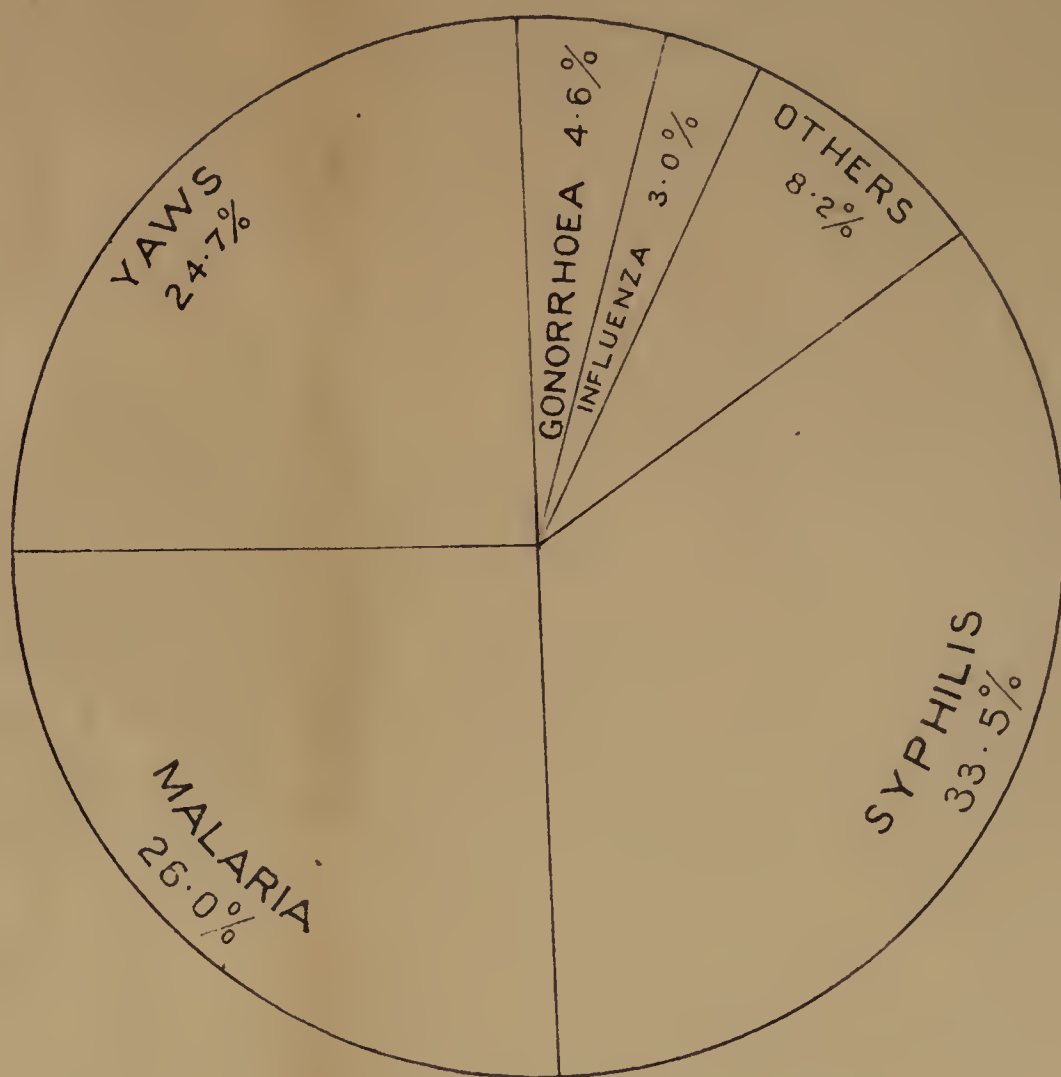


THE PROPORTION OF EPIDEMIC, ENDEMIC, INFECTIOUS, SYSTEMIC AND OTHER DISEASES SHOWN AS PERCENTAGES OF TOTAL CASES TREATED

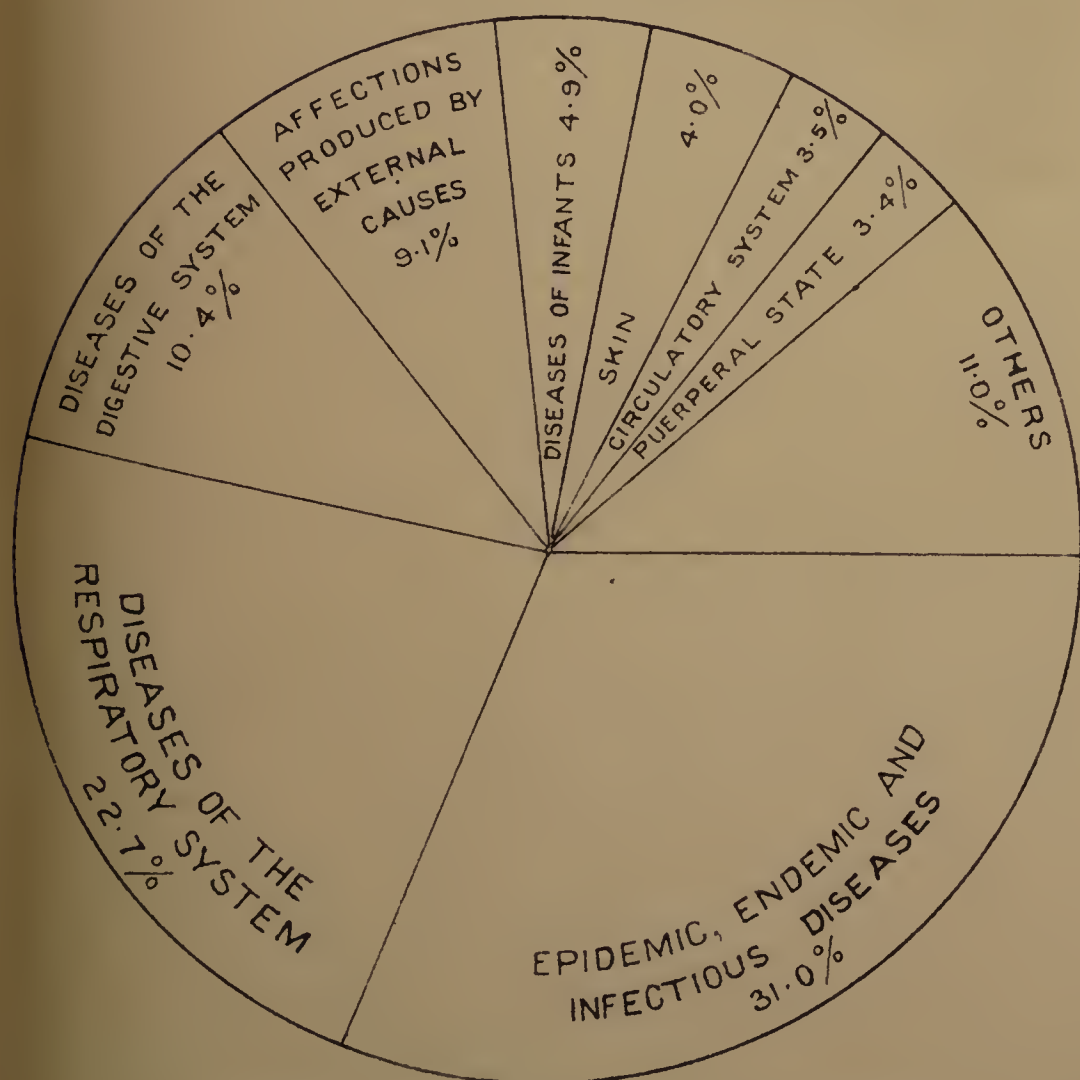


TOTAL INCIDENCE — 661,658

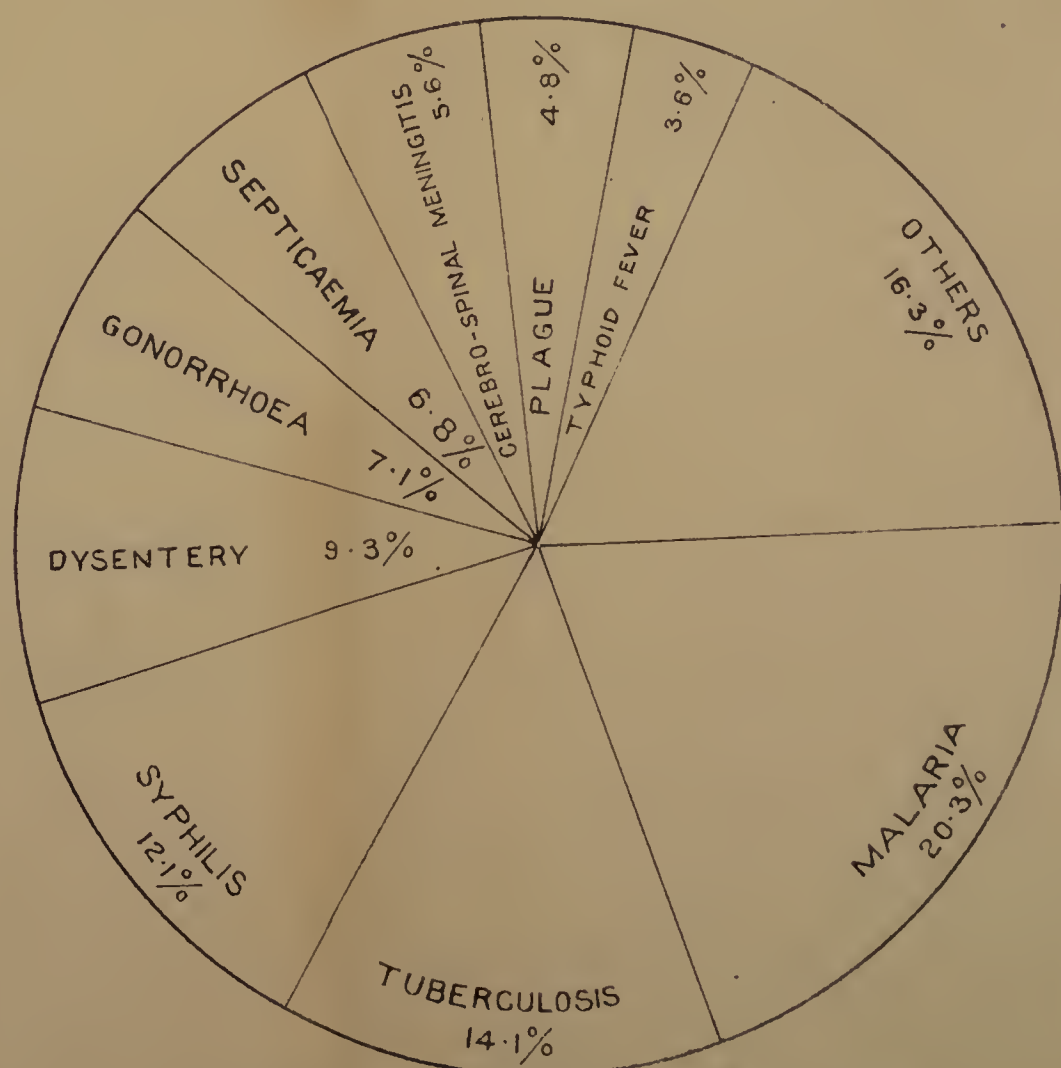
THE PROPORTION OF EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES.



TOTAL INCIDENCE — 193,005



TOTAL DEATHS — 1,280



TOTAL DEATHS — 397



*Malaria*.—50,180 cases and 81 deaths occurred in the year. In 1930 there were 46,624 cases and 80 deaths. The distribution by types of disease and provinces is set out below:—

	Buganda Province.	Eastern Province.	Western Province.	Northern Province.	Protectorate.
Tertian Malaria ... ..	636	190	215	176	1,217
Quartan Malaria ... ..	79	19	120	2	220
Aestivo Autumnal Malaria ... ..	2,398	1,502	1,399	335	5,634
Clinical Malaria ... ..	19,835	10,447	6,657	6,009	42,948
Mixed Infections ... ..	42	2	3	7	54
Malaria Cachexia ... ..	12	70	—	25	107
TOTALS ... ..	23,002	12,230	8,394	6,554	50,180

The distribution shows no marked variation from that of previous years.

#### (b) INFECTIOUS DISEASES.

*Cerebro-spinal Meningitis*.—33 cases are recorded; 32 of these were admitted to hospitals of whom 22 died. 19 cases and 14 deaths were recorded in 1930. 27 of the cases occurring in the year under review were reported from Aringa county in the West Nile district where a small epidemic occurred in March, April and May.

*Encephalitis Lethargica*.—Two cases were reported from Lira district and two from Hoima district.

*Dysentery*.—There were 2,545 cases and 37 deaths recorded. Last year's returns show 2,820 cases and 31 deaths.

*Influenza*.—5,706 cases and four deaths are reported. No widespread epidemic occurred. Last year there were 7,135 cases and five deaths.

*Leprosy*.—Leprosy surveys were carried out in a number of districts and the results will be found in Section III of this report at page 29. 3,822 lepers attended for treatment during the year, compared with 2,133 in 1930, and 3,174 in 1929. There were only three deaths reported.

*Tuberculosis*.—363 cases with 56 deaths are reported. There were 324 cases in 1930 and 379 in 1929.

*Enteric Fever*.—See Section III at page 28. 65 cases and 14 deaths occurred. 43 cases and eight deaths were reported in 1930.

*Syphilis and Yaws*.—The number of cases treated of these diseases for the last six years are set out below:—

	1926	1927	1928	1929	1930	1931
Syphilis ...	35,784	52,032	69,015	74,722	65,979	64,591
Yaws ...	10,930	26,629	35,126	37,378	38,066	47,598

The increase in the number of cases of yaws treated is accounted for by the opening of new sub-dispensaries in the Northern and Eastern Provinces where yaws is prevalent.

*Gonorrhœa*.—8,931 cases are recorded in 1931, 8,619 in 1930 and 8,609 in 1929.

*Anthrax*.—44 cases appear in the monthly returns of sick with one death. Of these 43 were reported from Masaka. The actual number of cases under observation in Masaka was 69 of whom seven died.

#### (c) HELMINTHIC DISEASES.

*Ankylostomiasis*.—836 cases with 23 deaths were reported. There were 739 cases and 12 deaths in 1930.

*Cestoda*.—There were 2,435 cases reported in the year. 2,216 cases occurred in 1930.



*Ascaris*.—929 cases compared with 976 in 1930.

*Dracunculus*.—1,711 cases compared with 1,482 in 1930.

*Schistosomiasis*.—14 cases of bilharzia were reported under "Diseases of the Digestive System" and five cases of schistosomiasis under "Diseases of the Genito Urinary System." 166 cases were reported in 1930 and 38 in 1929.

Eight cases were reported from Entebbe, three of whom died, and one from Kampala.

In the Annual Medical Report of 1930 it was stated that "no part of the Buganda Province has been known hitherto to be infected since 1905." It should be understood that this refers to clinical cases of disease due to schistosomiasis; on several occasions reports have been received and published of the finding of schistosome ova in the stools of apparently healthy inhabitants of this province. No cases of disease have been reported between the years 1905 and 1930.

## (B) Vital Statistics.

### GENERAL NATIVE POPULATION.

The returns of vital statistics for the year are set out in Tables A, B and C at pages 18–21. A census was made on May 29th, 1931. In many districts a considerable discrepancy was apparent between the census population of 1931 and the estimated population appearing in the Blue Book for 1930, and as the birth and death rates for 1931 are calculated upon the census figures and those for 1930 on the estimated population, the discrepancy is reflected in the birth and death rates of the districts concerned.

The position revealed by the census figures of 1931 and compared with the figure of the 1921 census is more satisfactory than would have been inferred from the birth and death rates. A considerable increase of population is shown in every district with the exception of Karamoja, and in this instance the 1921 census figure was an estimate only, as the district was not then administered fully. In some instances the increase of population over the decennium is so high that it can hardly be accounted for by excess of births over deaths. In Busoga, for instance, an annual increase of population of 55·7 per thousand per annum is recorded, and in Toro the annual incremental rate is 51·3 per thousand per annum. In other instances, the census figures for the decennium are directly opposed to general belief based upon observation and vital statistics, as in the instance of Bunyoro, which has always been regarded as a district with a decreasing population. The census shows that the population of Bunyoro has increased from 98,573 in 1921 to 114,220 in 1931, an annual rate of increase of 14·8 per thousand.

An attempt was made to check the rates of increase revealed by the census figures in each district by the number of actual poll tax payers. The earliest records available for poll tax payers were those for 1925, and a scrutiny was made of all returns for that year and for 1931. In a normal year over 95 per cent. of those from whom tax is due, pay the tax during the year. Three per cent. defer payment until the following year and a few pay in subsequent years. In abnormal years of famine or crop failure many of the inhabitants of affected districts may find it impossible to pay their tax in the year in which it is due, and as many as 30 to 40 per cent. may defer payment until the following or subsequent years. It follows that considerable discrepancy may arise by a survey of any one year, and that a true estimate can only be obtained by a survey of returns for the year concerned and for two subsequent years. In consequence discrepancies were apparent in the results of the survey undertaken, but the indications were definite that neither the census figures nor the vital statistics returns gave an entirely accurate picture of the true state of affairs in the districts.

It would appear that one of the disturbing factors in both methods of calculation is that of immigration and emigration. For many years there has been a constant stream of native labour from Belgian Ruanda into Uganda. Of late the stream has



slackened, but there appears to be a greater tendency now for these immigrants to settle permanently in the country with their families. Labourers from the West Nile spread all over the Protectorate, and it may be possible that a similar immigration from the Congo to the West Nile and so over the Protectorate is occurring and being followed by permanent settlement. Such immigrants would escape the payment of poll tax for a short time and would escape also the registration of births and deaths occurring amongst them for a longer time, because they would not immediately come within the tribal organisation of their adopted district. It is difficult to estimate to what extent they would figure in the census.

The position, though highly satisfactory in that Uganda is gaining considerably in population from various causes, cannot statistically be regarded as satisfactory, and it appears that more advantage should be taken in the future of the very valuable data contained in the monthly returns of poll tax paid. If figures available from these returns were collated over three years, as explained above, they would give very valuable information of the number of males of poll tax paying age in each district, and would prove to be perhaps the most accurate record available of any section of the population and as such would constitute a valuable check on the rate of increase of the general population revealed by other methods.

*Birth and Death Rates.*—The birth rate for the Protectorate was 29·12 and the death rate 21·75, and the variation from last year was slight.

The provincial rates show no great variation from previous years, although considerable variations are apparent in the rates for districts. This is largely accounted for by the difference of the district populations recorded in the 1931 census and the 1930 Blue Book. Provincial and Protectorate populations did not show the same variation.

*Still-birth Rate.*—The rate for the Protectorate is 4·53 per cent. compared with 4·06 per cent. in 1930. The rate varied from 0·87 per cent. in Teso to 21·13 per cent. in Bunyoro.

*Infantile Mortality Rate.*—The rate for the Protectorate was 209·71 per thousand births which represents the lowest rate yet recorded. The highest district rate is 377·57 in Bunyoro, a considerable increase over previous recorded rates for this district.

*Maternal Mortality Rate.*—The rate for the Protectorate per thousand births and still-births is 14·60 compared with 15·74 recorded in 1930. The rate is extremely high compared with European standards and is a concomitant of the almost universal native custom of administering ecbolics to women at the time of child birth.

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TABLE A.—RETURN SHOWING BIRTH, DEATH, STILL BIRTH AND  
FOR THE LAST

PROVINCE AND DISTRICT.	BIRTH RATE PER 1,000 POPULATION.							DEATH RATE PER 1,000 POPULATION.						
	1925	1926	1927	1928	1929	1930	1931	1925	1926	1927	1928	1929	1930	1931
BUGANDA :—														
MENGO ... ..	...	18·09	19·22	15·98	15·88	14·71	15·85	...	...	...	...	...	18·66	22·24
ENTEBBE ... ..	...	22·83	26·27	24·63	24·79	24·92	17·52	...	...	...	...	...	24·60	15·21
MASAKA ... ..	...	25·23	25·18	23·15	25·22	26·35	27·97	...	...	...	...	...	20·68	18·44
MUBENDE ... ..	...	18·71	19·12	18·78	18·26	19·22	21·81	...	...	...	...	...	22·58	19·28
TOTAL ...	19·43	20·52	21·73	19·50	19·78	19·70	19·70	18·11	19·35	17·18	18·98	18·47	20·77	19·46
EASTERN PROVINCE :—														
BUSOGA ... ..	45·87	35·16	39·38	35·80	35·48	37·39	31·84	21·57	24·52	20·68	20·19	18·91	26·38	23·69
BUDAMA ... ..	...	22·82	21·79	20·87	25·63	37·55	34·24	...	...	...	...	...	22·75	21·39
BUGISHU ... ..	...	32·42	36·09	36·86	35·12	31·64	43·31	...	...	...	...	...	21·88	23·75
BUGWERE ... ..	...	...	22·05	20·28	22·48	26·85	26·89	...	...	...	...	...	32·59	25·63
TESO ... ..	...	11·76	17·01	15·83	19·11	21·87	23·34	...	...	...	...	...	19·15	23·73
LANGO ... ..	...	32·85	31·69	29·32	33·13	33·27	34·63	...	...	...	...	...	21·09	26·76
TOTAL ...	...	27·00	29·27	25·84	27·60	30·80	31·72	...	...	...	...	...	23·71	24·12
WESTERN :—														
TORO ... ..	55·20	48·37	52·25	48·77	42·92	34·35	24·26	26·94	23·78	20·75	25·06	20·30	24·26	21·70
ANKOLE ... ..	31·01	31·25	36·39	34·64	34·22	38·50	37·51	16·48	19·87	19·55	16·50	17·75	26·91	26·97
KIGEZI ... ..	...	...	...	43·85	40·37	29·69	37·86	...	...	...	...	...	13·42	15·74
TOTAL ...	...	37·29	41·97	40·97	38·28	34·55	33·95	...	...	...	...	...	21·69	21·87
NORTHERN :—														
BUNYORO ... ..	14·24	17·54	18·25	21·63	23·77	23·26	18·03	22·44	22·57	20·03	26·98	28·76	32·56	21·59
GULU ... ..	...	27·95	37·08	34·66	39·60	45·28	40·83	...	...	...	...	...	27·41	27·57
CHUA ... ..	...	49·96	35·04	42·80	39·13	47·64	53·96	...	...	...	...	...	24·54	29·18
WEST NILE ... ..	...	37·49	44·03	35·88	28·20	28·28	27·80	...	...	...	...	...	10·79	11·61
TOTAL ...	...	31·74	36·09	34·07	31·63	34·30	31·95	...	...	...	...	...	20·21	19·26
UGANDA PROTECTORATE	...	27·40	29·94	28·14	28·13	29·19	29·18	...	...	...	...	...	22·06	21·75



INFANTILE MORTALITY RATES FOR THE UGANDA PROTECTORATE  
SEVEN YEARS.

STILL-BIRTH RATE PER 100 BIRTHS AND STILL-BIRTHS.							INFANTILE MORTALITY RATE PER 1,000 BIRTHS.							MATERNAL MORTALITY RATE PER 1,000 BIRTHS AND STILL-BIRTHS.		
1925	1926	1927	1928	1929	1930	1931	1925	1926	1927	1928	1929	1930	1931	1925 to 1929	1930	1931
...	...	...	...	...	3·75	5·05	...	115·13	104·49	129·92	100·98	125·16	148·71	No record.	15·11	14·27
...	...	...	...	...	3·58	2·95	...	182·16	147·93	162·63	112·47	129·33	100·43		6·15	7·17
...	...	...	...	...	2·86	3·57	...	139·03	127·46	146·21	109·03	106·37	97·41		9·30	7·66
...	...	...	...	...	3·67	5·28	...	204·93	168·62	208·22	144·81	168·39	114·48		7·41	4·19
7·10	5·94	5·31	4·82	6·65	3·45	4·29	157·17	149·90	130·27	155·32	112·86	128·16	118·21	...	10·23	9·07
4·40	5·47	4·83	5·27	4·51	4·73	6·09	...	330·60	276·15	288·82	292·72	267·00	234·95	No record.	13·28	13·32
...	...	...	...	...	1·99	1·42	...	352·25	448·17	421·96	373·16	264·02	211·05		12·72	10·31
...	...	...	...	...	7·37	6·46	...	305·29	312·52	376·65	210·05	264·59	231·84		17·37	13·94
...	...	...	...	...	4·78	6·95	...	...	309·90	305·74	364·29	196·63	181·56		20·32	16·16
...	...	...	...	...	0·82	0·87	...	174·59	119·56	138·98	121·13	85·03	88·30		15·34	13·02
...	...	...	...	...	2·07	1·31	...	380·68	348·76	337·14	210·83	198·09	189·12		10·56	10·91
...	...	...	...	...	3·85	4·19	...	331·27	298·59	313·88	253·54	218·55	196·57	...	14·45	12·94
26·19	25·95	24·42	23·32	24·03	3·58	5·71	...	340·26	342·21	325·02	322·26	360·76	377·57	No record.	16·58	19·25
10·38	13·72	15·27	13·11	17·82	4·36	4·78	...	369·60	299·83	304·21	338·30	286·28	267·48		13·78	12·08
...	...	...	...	...	1·56	1·55	...	...	...	182·32	204·00	124·69	139·36		15·08	8·74
...	...	...	...	...	3·37	3·83	...	354·16	318·52	271·57	290·57	256·57	243·08	...	14·83	12·35
32·18	30·32	29·68	29·53	20·44	17·63	21·13	...	534·93	433·14	416·53	382·36	323·51	244·17	No record.	7·81	4·97
...	...	...	...	...	2·71	2·97	...	386·35	343·98	265·60	226·64	311·18	365·69		11·96	17·22
...	...	...	...	...	5·73	6·12	...	119·61	247·80	219·17	346·02	334·04	327·12		23·40	16·96
...	...	...	...	...	4·30	3·60	...	219·62	184·64	106·04	104·79	229·19	234·19		40·70	47·92
...	...	...	...	...	6·06	6·60	...	238·26	254·55	201·26	225·16	288·15	289·18	...	25·27	27·19
...	...	...	...	...	4·06	4·53	...	276·27	259·73	254·35	232·75	223·65	209·71	...	15·74	14·60

TABLE B.—TABLE SHOWING INCREASE OR DECREASE OF BIRTHS  
OVER DEATHS FOR FIVE DISTRICTS FOR THE LAST 16 YEARS.

YEAR.			BUGANDA.	BUSOGGA.	BUNYORO.	ANKOLE.	TORO.	TOTAL INCREMENT
1916	...	...	—3,065	+4,322	— 517	+ 798	+1,864	+ 3,402
1917	...	...	—4,385	+2,240	—1,466	+ 857	+1,583	— 1,171
1918	...	...	—3,873	+1,553	—2,851	+ 776	+1,657	— 2,738
1919	...	...	—5,709	—3,135	—2,061	—1,870	— 176	—12,951
1920	...	...	—2,204	+2,025	—1,012	+ 496	+ 907	+ 212
1921	...	...	— 711	—1,483	— 997	+ 889	+1,896	— 406
1922	...	...	—1,458	+2,953	— 891	+1,503	+1,872	+ 3,979
1923	...	...	— 624	+2,194	— 856	+1,611	+1,670	+ 3,995
1924	...	...	+ 37	+3,295	— 970	+2,329	+2,924	+ 7,615
1925	...	...	+1,059	+5,726	— 818	+3,727	+3,253	+12,947
1926	...	...	+1,179	+5,314	— 500	+2,891	+3,602	+12,486
1927	...	...	+3,475	+5,703	— 443	+4,446	+3,955	+17,136
1928	...	...	+1,091	+4,656	— 492	+4,848	+3,686	+13,789
1929	...	...	+1,357	+5,572	— 329	+4,238	+3,505	+14,343
1930	...	...	— 940	+3,799	— 801	+3,139	+1,571	+ 6,768
1931	...	...	+ 213	+3,084	— 406	+2,945	+ 497	+ 6,333



VITAL STATISTICS RETURN OF THE UGANDA PROTECTORATE FOR THE YEAR 1931 (NATIVE POPULATION ONLY).

[illegible]

\*Population Karamoja 65,523. Vital Statistics not available



## EUROPEAN OFFICIALS.

The officials included in Table D below are those officials whose names appear in the Protectorate Staff List only. Wives and families are not included nor are officials of the Kenya and Uganda Railways and Harbours whose names do not appear in the Staff List. The reason for the latter omission is that these officials, such as engine drivers and guards, are not stationed in Uganda, and enter and leave the Protectorate continually in the course of their duties. In their case it would not be possible to give either the total or the average number resident.

TABLE D.

Table showing the sick, invaliding and death rates of European officials during the last three years :—

	1929	1930	1931
Total number of officials resident	573	590	607
Average number resident	394	396	431
Total number on sick list	693	1,116	1,075
Total number of days on sick list	2,607	2,871	3,053
Average daily number on sick list	7.14	7.86	8.35
Percentage of sick to average number resident	1.81	1.98	1.93
Average number of days on sick list, each patient	3.76	2.57	2.84
Average sick time, each resident	6.61	7.22	7.08
Total number invalided	5	2	6
Percentage of invalidings to total residents	0.87	0.34	0.98
Total deaths	2	2	2
Percentage of deaths to total residents	0.35	0.34	0.33
Percentage of deaths to average number resident	0.50	0.50	0.46
Number of cases of sickness contracted away from station	No record		
Number granted local sick leave	26	28	31
Average number of days sick leave for each patient granted local sick leave	17.50	18.32	16.35

The most common diseases suffered from were :—

Malaria	555	Asthenia	14
Diseases of digestive system	53	Influenza	6
Diseases of respiratory system	41	Dysentery	3
Injuries	48	Boils and skin	35

*Medical Boards* were held to enquire into the health of six sick European officials during the year and the following recommendations were made :—

(a) To be invalided out of the service	4
<i>B. coli</i> cystitis	1
Neurosis following trypanosomiasis	1
Asthma, tachycardia	1
Arterio sclerosis of the coronary arteries	1
(b) To proceed on short leave to England	2
Asthma	1
Dermatitis herpetiforme	1

One official who was sent on sick leave to England in 1930 was invalided out of the service in 1931 on the recommendation of a Consulting Physician to the Colonial Office.

Three officers were examined by Medical Boards with a view to ascertaining :—

(a) Fitness to become Contributors to the Widows' and Orphans' Pension Fund	2
(b) To decide on extent of disability due to Government service	1

*Deaths.*—Three deaths amongst European officials are recorded, two of which occurred in Uganda and one in England while the officer was on leave. The cause of death was :—

- (a) Died in sleep (heart failure).
- (b) Bronchitis.
- (c) Blackwater fever.



## EUROPEAN NON-OFFICIALS.

The number of cases who attended Government hospitals during the year was 2,216 compared with 1,714 in the previous year. 1,013 of these cases were either officials not included in Table D above or the wives and families of officials, and the remaining 1,203 cases were patients unconnected with Government.

There were 26 deaths recorded as compared with 11 for the previous year, and the following list shows the cause in each case:—

Appendicitis and malaria	...	1	Pneumonia	...	...	2
Ruptured bladder	...	1	Acute Bright's disease	...	...	1
Bronchitis and asthma	...	1	Drowning	...	...	4*
Adeno carcinoma of prostate	...	1	Accident, motor	...	...	1
Myocardial degeneration	...	1	Suicide	...	...	1
Syncopal attack	...	1	Cancer	...	...	1
Amoebic dysentery	...	1	Exophthalmic goitre	...	...	1
Cerebro-spinal meningitis	...	1	Toxæmia following quinsy	...	...	1
Blackwater fever	...	4	Malaria	...	...	1
Malaria and pneumonia	...	1				
						<hr/> 26 <hr/>

The principal causes of sickness were:—

		<i>Cases.</i>				<i>Cases.</i>
Malaria	...	466	Injuries	...	...	41
Dysentery	...	6	Asthenia	...	...	10
Diseases of digestive system	...	78	Rheumatism	...	...	10
Diseases of respiratory system	...	77	Cellulitis	...	...	3
Boils and skin	...	18	Influenza	...	...	6

## ASIATIC OFFICIALS.

In Table E below, the wives and families of officials and officials employed by the Kenya and Uganda Railways and Harbours are omitted in the same manner as in Table D. Artizans employed by the Public Works Department are also omitted, as they are all on temporary agreement and come and go continuously.

A more accurate basis of calculation has been employed this year and the figures for the two previous years are adjusted accordingly.

TABLE E.

Table showing the sick, invaliding and death rates of Asiatic officials during the last three years:—

				1929.		1930.		1931.
Total number of officials resident	...	...	...	382	...	403	...	384
Average number resident	...	...	...	338	...	359	...	335
Total number on sick list	...	...	...	1,227	...	1,108	...	871
Total number of days on sick list	...	...	...	3,163	...	3,673	...	2,551
Average daily number on sick list	...	...	...	8·66	...	10·06	...	6·98
Percentage of sick to average number resident	...	...	...	2·56	...	2·80	...	2·08
Average number of days on sick list for each patient	...	...	...	2·57	...	3·31	...	2·92
Average sick time each resident	...	...	...	9·35	...	10·23	...	7·61
Total number invalided	...	...	...	2	...	2	...	6
Percentage of invalidings to total residents	...	...	...	0·52	...	0·49	...	1·56
Total deaths	...	...	...	3	...	1	...	7
Percentage of deaths to total residents	...	...	...	0·78	...	0·24	...	1·82
Percentage of deaths to average number resident	...	...	...	0·88	...	0·27	...	2·00
Number of cases of sickness contracted away from station	...	...	...		...	No record	...	
Number granted local sick leave	...	...	...	10	...	5	...	10
Average number of days on sick leave for each patient granted sick leave	...	...	...	18	...	24	...	18

\*One result of motor accident.

The most common diseases for which medical attention was sought were:—

Malaria ... ..	739	Boils and skin ... ..	27
Diseases of digestive system ...	64	Asthenia ... ..	10
Diseases of respiratory system ...	91	Rheumatism ... ..	12
Typhoid ... ..	1	Influenza ... ..	30
Injuries ... ..	47	Dysentery ... ..	5

*Medical Boards.*—Six Asiatic officials were invalided out of the service on the recommendations of Medical Boards, the causes of invaliding being:—

(a) Partial residual paralysis.	(d) Diabetes.
(b) Melancholia—blackwater fever.	(e) General debility.
(c) Organic mitral incompetence.	(f) Neurasthenia.

The official invalided on account of neurasthenia was boarded in Bombay.

*Deaths.*—Seven deaths are recorded amongst Asiatic officials, the cause of death being:—

(a) Chronic nephritis and myocarditis	1	(e) Motor cycle accident	1
(b) Acute nephritis—heart failure ...	1	(f) Typhoid fever ... ..	1
(c) Blackwater fever ... ..	1	(g) Bright's disease ... ..	1
(d) Pneumonia ... ..	1		

### ASIATIC NON-OFFICIALS.

6,379 cases presented themselves for treatment during the year, of whom 1,884 were the wives and families of officials, officials of the Kenya and Uganda Railways and Harbours, or artizans employed by the Public Works Department. There were 6,728 cases in 1930. There were 104 deaths compared with 86 in the previous year.

The following are the causes of death in each case:—

Pneumonia ... ..	28	Suicide (drowning) ... ..	1
Malaria ... ..	14	Abortion ... ..	1
Injuries ... ..	4	Marasmus ... ..	2
Blackwater fever ... ..	21	Premature birth ... ..	4
Cerebral malaria ... ..	5	Tuberculosis and meningitis ...	1
Empyema ... ..	1	Diarrhoea ... ..	1
V. D. H. ... ..	1	Tuberculosis ... ..	2
Abscess of lung ... ..	1	Pernicious anæmia ... ..	1
Bronchitis ... ..	2	Diabetes ... ..	1
Typhoid ... ..	1	Myocarditis ... ..	1
Syphilis ... ..	3	Delayed labour ... ..	1
Erysipelas ... ..	2	Infantile convulsions ... ..	1
Bright's disease ... ..	2	Thrush ... ..	1
Pulmonary phthisis ... ..	1		
		TOTAL ... ..	104

The principal causes of sickness were:—

Malaria ... ..	2,975	Asthenia ... ..	16
Injuries ... ..	97	Influenza ... ..	33
Diseases of respiratory system	272	Asthma ... ..	11
Diseases of digestive system	182	Dysentery ... ..	10
Boils and skin ... ..	120		



## SECTION III.

### SANITATION.

#### (A) General Review of Work Done.

##### (I) PREVENTIVE MEASURES.

*Malaria.*—During the year 50,180 cases of malaria were reported from Government hospitals and dispensaries, of which 3,059 were treated in the wards. 698 cases occurred among Europeans and 3,303 among Asiatics. Thirteen deaths are attributed to malaria, two in Europeans and eleven in Asiatics. In 1930 there were 46,624 cases.

Of the large stations built in permanent materials Lira is undoubtedly one of the worst, since no European stationed there escaped at least one attack of malaria.

In connection with Mbale, the Senior Medical Officer reports as follows:—

“Practically all cases of malaria which occurred among officials and their families were contracted outside the district or on tour. . . . A very useful innovation has been the fitting of springs to the doors of all Government quarters thus removing the menace of open doors.”

A small native staff is employed at each station on routine preventive work which consists of spraying with oil, dusting with paris green, and the maintenance and extension of surface drainage. The oil used, which is found to be effective, is a mixture of seven parts of Diesel oil and one part of kerosene. During the year 7,992 gallons of oil and 529 lbs. of paris green were used, and some 112,490 feet of new ditches made. Where necessary increased staff is employed and paid for by special grants.

Reclamation of breeding places by filling with township refuse has been continued especially in the brick-field area at Kampala. Owing to the increased volume of refuse and the improved transport effected by the use of special motor lorries more pits than usual were reclaimed by this method. In addition many of the larger pits were connected together in order to increase the expanse of water and so reduce the extent of the edge to be kept clear of weeds and to encourage wave action.

The anti-malarial afforestation which was started some years ago has been extended. A further 117 acres were planted at Tororo, 70 at Soroti, 37 at Lira and 107 at Kampala. With the exception of Kampala, where this work was done by the Township Authority, all planting was carried out by the Forest Department.

The Conservator of Forests reports as follows on the experimental anti-malarial plantation at the Lugogo swamp near Kampala:—

“The plantation is established but somewhat patchy. The general condition is not very satisfactory and it is a pity that the experiment was started so hastily. Not enough drainage was carried out. . . .”

He reports more favourably however on the other plantations at Tororo and Kampala.

At Jinja a mile-and-a-half of the lake shore between the Bench Mark and the Ripon Falls was cleared of papyrus and reeds, the edge of the bank raised and faced with stone. This is a most excellent piece of work, and Dr. W. L. Peacock deserves great credit for the way in which it has been carried out. It has undoubtedly removed an extensive breeding area and effected a great improvement. Unfortunately, owing to the damage caused by hippopotamus living in the lake above the Ripon Falls continual maintenance of the wall and bank will have to be carried out.

Special work was also undertaken at Arua. Within a mile-and-a-half of the centre of the township there are more than 20 miles of streams and numerous seepages. The seepages have been dealt with by making contour drains, the smaller ditches have been converted into rubble drains and the channels of the main streams have been cleared and trained. It is hoped that by these means to reduce the incidence of malaria but continued maintenance will be required to make these measures effective.

Anti-malarial surveys have been carried out at Arua, Fort Portal, Lira, Soroti, Tororo and Jinja. These were done by the Entomological section of the Agricultural Department to which the Medical Entomologist, on the advice of Sir Guy Marshall, was transferred. Details of these reports will be found in the Annual Report of the Agricultural Department

Major schemes for dealing with Kampala, Jinja and Entebbe were placed before the Central Town Planning Board in November. The extension of the Kampala golf course into the Kitante Valley which constituted a part of the proposals for Kampala has been started. A large area of swamp land has been drained and thus been reclaimed but I think it will be found necessary eventually to place a cement channel in the Kitante and its main tributaries to prevent the breeding of anophelines which undoubtedly occurs in them.

*Blackwater Fever*.—Vide Appendix No. III.

*Trypanosomiasis*.—Vide Appendix No. IV.

## (II) EPIDEMIC DISEASES.

*Anthrax*.—The epidemic in the Masaka district which broke out in 1930 continued for the greater part of the year. The steps taken to control the spread of the disease by prohibiting the movement of cattle and the destruction of hides in the infected area appear to have been effectual since few cases occurred among persons outside the infected area.

During 1931, 76 cases with 6 deaths were reported which makes a total for the epidemic of 189 cases with 27 deaths.

*Smallpox*.—No case of smallpox was reported during the year.

The following table gives number of vaccinations performed during the year:—

SMALLPOX VACCINATIONS—DISTRIBUTIONS AND RESULTS.

				Total.	Successful.	Modified.	Failed.	Unknown.
BUGANDA PROVINCE:—								
Entebbe District	...	...	...	200	158	20	2	20
Mengo „	...	...	...	18,057	13,560	44	1,258	3,195
Mubende „	...	...	...	1,060	570	73	53	364
Masaka „	...	...	...	18,264	6,135	4,835	6,006	1,288
Kampala and Luzira Prisons	...	...	...	544	448	—	96	—
	TOTAL	...	...	38,125	20,871	4,972	7,415	4,867
EASTERN PROVINCE:—								
Busoga District	...	...	...	3,269	426	215	214	2,414
Bugwere „	...	...	...	20,494	12,071	5,225	3,198	—
Budama „	...	...	...	15,632	5,337	4,648	3,586	2,061
Teso „	...	...	...	3,116	1,413	888	449	366
Lango „	...	...	...	8,010	7,646	—	—	364
	TOTAL	...	...	50,521	26,893	10,976	7,447	5,205
WESTERN PROVINCE:—								
Ankole District	...	...	...	656	49	—	—	607
Toro „	...	...	...	15,827	4,433	—	516	10,878
Kigezi „	...	...	...	6,285	1	—	54	6,230
	TOTAL	...	...	22,768	4,483	—	570	17,715
NORTHERN PROVINCE:—								
Masindi District	...	...	...	2,195	282	70	610	1,233
Hoima „	...	...	...	2,677	1,197	502	392	586
Chua „	...	...	...	2,653	1,056	480	484	633
	TOTAL	...	...	7,525	2,535	1,052	1,486	2,452
	GRAND TOTAL	...	...	118,939	54,782	17,000	16,918	30,239

*Spirillum Fever*.—There were 871 cases of this disease reported during the year of which 12 died. A small epidemic occurred at a Roman Catholic school in the Mubende district. The dormitory, which was constructed of temporary materials was found to be infested and to be the cause of the outbreak. This the mission authorities have since burnt and replaced by a dormitory constructed of permanent materials.

No preventive measures have as yet been found to be really effective and sooner or later all temporary buildings in the tick-infested areas become infested and have to be destroyed. Cyanogas was found to destroy the immature ticks but the adult forms were unharmed.



Many of the native prisons are tick-infested and steps are now being taken by the local authorities to replace the infested buildings by new ones.

*Plague.*—Slightly fewer cases were reported, the figures being 2,378 cases with 2,299 deaths as against 2,546 cases with 2,370 deaths for the preceding year.

The following table gives the distribution and incidence of the cases as reported by the Health Officers of the different districts :—

TABLE I.

				Townships.		Districts.		Totals.		Provincial Totals.			
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.		
BUGANDA PROVINCE.													
ENTEBBE DISTRICT.													
Busiro County	...	...	—	—	30	28							
Entebbe Township	...	...	1	1	—	—							
Mawokota County	...	...	—	—	36	35	67	64					
MENGO DISTRICT.													
Kyadondo County	...	...	—	—	90	89							
Kampala Township	...	...	5	4	—	—							
Kyagwe County	...	...	—	—	161	154							
Bulemezi County	...	...	—	—	146	145	402	392					
MASAKA DISTRICT.													
Buddu County	...	...	—	—	37	33	37	33	506	489			
EASTERN PROVINCE.													
BUSOGA DISTRICT.													
Kigulu County	...	...	—	—	27	27							
Bugweri County	...	...	—	—	6	6							
Bugabula County	...	...	—	—	242	234							
Luuku County	...	...	—	—	6	6							
Bukole County	...	...	—	—	5	5							
Bulamogi County	...	...	—	—	2	2	288	280					
BUGWERE DISTRICT.													
Mbale County	...	...	—	—	1	1							
Mbale Township	...	...	1	—	—	—							
Bukedea County	...	...	—	—	214	188							
Bugwere County	...	...	—	—	15	13							
Pallisa County	...	...	—	—	15	9	246	211					
BUGISHU DISTRICT.													
South Bugishu	...	...	—	—	24	23							
North Bugishu	...	...	—	—	61	47	85	70					
BUDAMA DISTRICT.													
Bunyuli County	...	...	—	—	12	10							
Budama County	...	...	—	—	18	17							
Samia County	...	...	—	—	7	7							
Mjanji Port	...	...	1	1	—	—	38	35					
LANGO DISTRICT.													
Kwania County	...	...	—	—	19	19							
Dokolo County	...	...	—	—	2	2							
Eruti County	...	...	—	—	18	17	39	38					
TESO DISTRICT.													
Kasilo County	...	...	—	—	104	104							
Kumi County	...	...	—	—	457	457							
Ngora County	...	...	—	—	596	596							
Soroti County	...	...	—	—	4	4							
Amuria County	...	...	—	—	9	9							
Serere	...	...	—	—	6	6	1,176	1,176	1,872	1,810			
TOTAL										...	...	2,378	2,299

Acting on the recommendation of Sir E. Thornton the practice of burning or dethatching huts for the purposes of disinfection has been replaced by the use of cyanogas. This method is extremely popular and has resulted in the whole-hearted co-operation of the public. Mortality among rats and human cases are now immediately reported by all communities and the obvious willingness on the part of the public to do all in its power to help the health authorities is most noticeable. Anti-plague measures can now be instituted very much earlier and the results of disinfection with cyanogas have been most encouraging. There have been many instances both in townships and in districts where infected premises have been disinfected with cyanogas and no human cases have followed.

Progress in general sanitation has also been made in the areas where it has been possible to post a Sanitary Inspector. Dilapidated huts and stores have either been demolished or repaired and an area round dwellings and villages has been cleared of rubbish, vegetation and other conditions likely to harbour rats. Progress is of necessity slow but the public now shows a decided inclination to help and to follow our advice. The principle of building separate stores for seed cotton has been started but native prejudice against using such stores in preference to their houses is difficult to overcome.

During the year some 8,000 pounds of cyanogas have been used either in connection with outbreaks of plague or in the de-ratisation of buildings and native dwellings.

In the Teso district where extensive fumigation was carried out in connection with an epidemic of plague it was found that of 1,455 rats killed in native huts 1,444 were found to be *Rattus rattus*.

Experiments carried out with poison baits have shown that the following articles are taken in the order in which they are quoted: sweet-potatoes, cotton seed, wheat. It has also been found that rats are especially prevalent in the vicinity of sweet-potato plots. In view of the numbers of plots in and around townships this point is of great importance since potato patches would appear to be an attractive source of food during the dry season when the rats tend to leave the houses for the field.

*Typhoid Fever.*—There has been a considerable increase in typhoid during the year, 65 cases with 14 deaths being reported from Government hospitals and 72 with 15 deaths from all sources. The figures for the previous year were 43 cases with eight deaths.

TABLE SHOWING TYPE AND DISTRIBUTION.

					Typhoid.		Paratyphoid A.		Paratyphoid B.	
					Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
NATIVES.										
Mulago Hospital	...	...	...	...	38	9	1	1	3	1
Kampala Prison	...	...	...	...	1	—	—	—	—	—
Luzira Prison	...	...	...	...	5	1	—	—	—	—
Kololo ...	...	...	...	...	7	1	—	—	—	—
Masaka...	...	...	...	...	2	—	—	—	1	—
Fort Portal	...	...	...	...	1	—	—	—	—	—
INDIANS.										
Kampala	...	...	...	...	9	2	—	—	—	—
EUROPEANS.										
Kampala	...	...	...	...	2	—	—	—	—	—
Lira ...	...	...	...	...	—	—	—	—	1	—
Jinja ...	...	...	...	...	—	—	—	—	1	—
TOTAL					65	13	1	1	6	1

All the cases in the township of Kampala were investigated and a search for carriers made but none was discovered. In view of the fact that all the surface springs near Kampala are polluted and that the Nakivubo, which is also used as a water supply by the natives living on its banks, is most grossly polluted by the surface drainage from the Kampala Bazaar, it is remarkable that so few cases are reported.



Since 1925 the incidence of this disease has maintained a high level. The following table gives the number of cases in Kampala since 1917 :—

1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
0 ...	2 ...	18 ...	13 ...	6 ...	6 ...	16 ...	6 ...	28 ...	37 ...	60 ...	56 ...	85 ...	39 ...	66

*Leprosy.*—Special work for the relief of leprosy is chiefly carried out by the various missionary institutions.

The Church Missionary Society mission at Ngora has excellent institutions for this work which consist of a hospital for infectious cases at Kapiri and a residential school for children at Kumi. In the Kigezi district the Church Missionary Society mission at Kabale has a leper settlement and hospital on Bugama Island.

During the year the Roman Catholic mission commenced building a centre at Nyenga in the Buganda Province which it is hoped will be opened in 1932.

Since 1929 the following donations have been made to the various missions interested in this work :—

				£
NGORA.—From British Empire Leprosy Relief Association (Uganda)	...			2,500
From Native Administration	...	...	...	1,180
From British Empire Leprosy Relief Association (London) (direct contribution)	...	...	...	2,800
				<u>£6,480</u>
KIGEZI.—From British Empire Leprosy Relief Association (Uganda)	...			2,250
From British Empire Leprosy Relief Association (London) (direct contribution)	...	...	...	200
				<u>£2,450</u>
NYENGA.—From British Empire Leprosy Relief Association (Uganda)	...			<u>£750</u>

In addition to these donations grants of labour and land at nominal rents have been made.

A grant of £500 was received from the British Empire Leprosy Relief Association (London) at the end of the year. This will be distributed in 1932.

The leprosy survey started in 1930 was completed during the year. The results are tabulated below :—

#### ENTEBBE DISTRICT.

	Population.	Lepers examined.	Incidence per 1,000.	Type of Case.		
				A.	B.	A2.
Gomba	19,660	7	0·4	—	2	5
Mawokota	41,720	32	0·8	6	9	17
Busiro	71,735	33	0·5	1	6	26
Butambala	18,245	5	0·3	—	1	4
Busuju	*	—	—	—	—	—
TOTAL	151,360	77	0·51	7	18	52

#### MUBENDE DISTRICT.

Buwekula	29,895	21	0·72	3	13	5
Singo	91,085	114	1·25	12	28	74
Bugangadzi	31,875	71	2·22	18	28	25
Buyaga	42,580	13	0·31	—	6	7
TOTAL	195,435	219	1·12	33	75	111

#### MENGO DISTRICT.

Kyagwe	114,925	455	3·95	84	78	293
Bulemezi	119,195	301	2·5	29	105	167
Kyadondo	69,530	89	1·3	6	28	55
Buruli	19,225	96	4·9	10	35	51
Bugerere	21,380	93	4·4	13	45	35
TOTAL	344,255	1,034	3·0	142	291	601

\*Not surveyed.

BUSOGA DISTRICT.

				Population.	Lepers examined.	Incidence per 1,000.	Type of Case.		
							A.	B.	A2.
Bunya	...	...	...	378,394	30	7·2	20	1	9
Bugweri	...	...	...		84		60	5	19
Bukole	...	...	...		140		95	7	38
Luuku	...	...	...		129		79	11	39
Bulembe	...	...	...		55		42	4	9
Bulamogi	...	...	...		320		162	15	143
Kigulu	...	...	...		892		527	41	324
Bugabula	...	...	...		1,120		508	109	503
TOTAL				378,394	2,770	7·2	1,493	193	1,084

BUGWERE DISTRICT.

All Counties	...	...	...	175,517	759	4·3	410	139	167
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BUGISHU DISTRICT.

South	...	...	...	178,037	207	3·0	78	88	41
North	...	...	...		285		139	75	71
Central	..	...	...		44		9	11	24
TOTAL				178,037	536	3·0	226	174	136

TESO DISTRICT.

Soroti	...	...	...	270,211	284	5·7	95	70	119
Serere	...	...	...		242		18	110	114
Kasilo	...	..	...		259		47	127	85
Amuria	.	...	...		443		98	144	201
Usuku	...	...	...		179		34	31	114
Nepak	...	...	...		142		27	12	103
TOTAL				270,211	1,549	5·7	319	494	736

LANGO DISTRICT.

Kwania	...	...	...	216,627	* 105	12·6	—	—	—
Maruzi	...	...	...		* 74		—	—	—
Atura	...	...	...		* 161		—	—	—
Koli	...	...	...		* 310		—	—	—
Bokolo	..	...	...		521		402	15	104
Eruti	...	...	...		440		314	6	120
Moroto	...	...	...		409		333	18	58
Kalaki	...	...	...		319		250	8	61
Kabera maido	...	..	...		* 409		* 1,059	—	—
TOTAL				216,627	2,748	12·6	2,358	47	343

GULU DISTRICT.

Keyo	...	...	...	96,553	59	3·2	28	—	31
Koich	...	...	...		50		32	9	9
Attiak	...	...	...		43		23	3	17
East Madi	...	...	...		75		26	21	28
West Madi	...	...	...		80		13	40	27
TOTAL				96,553	307	3·2	122	73	112

\*Type not defined.



## CHUA DISTRICT.

				Population.	Lepers examined.	Incidence per 1,000.	Type of Case.		
							A.	B.	A2.
Agoro	...	...	...	78,974	9	2.5	4	...	5
Chua	...	...	...		13		5	2	6
Lira	...	...	...		56		19	3	34
Lokung	...	...	...		9		2	2	5
Pader	...	...	...		11		1	2	8
Padibe	...	...	...		11		5	...	6
Parabek	...	...	...		46		16	4	26
Pajuli	...	...	...		17		10	...	7
Payera	...	...	...		22		5	3	14
TOTAL				78,974	194	2.5	67	16	111

## BUNYORO DISTRICT.

Buruli	...	...	...	114,220	37	3.1	26	6	5
Bujenje	...	...	...		86		38	6	42
Kibanda	...	...	...		129		101	7	21
Kihukya	...	...	...		50		36	6	8
Bugahya	...	...	...		29		13	2	14
Buhaguzi	...	...	...		23		12	...	11
TOTAL				114,220	354	3.1	226	27	101

## KIGEZI DISTRICT.

All Counties	...	...	...	226,080	387	1.7	—	—	—
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## III. GENERAL MEASURES OF SANITATION.

*Sewage Disposal.*—In the larger townships night-soil disposal is by single buckets and trenching and in the smaller ones by a combination of buckets and pit latrines.

Sewerage schemes for Kampala and Jinja were drawn up by the Consulting Engineers to the Government but owing to the financial depression it has been impossible to proceed with them.

This is a matter of great regret especially in connection with Kampala where the incidence of typhoid appears to be gradually on the increase.

Some years ago a proposal to introduce a double bucket system in Kampala was put forward and money was spent on the purchase of buckets with which to make a start. In view of the proposed sewerage scheme the installation was postponed and now owing to the financial depression it has been further postponed. This is unfortunate as owing to the better standard of buckets that would have been necessary surface pollution would undoubtedly be reduced.

*Drainage.*—The surface drainage is gradually being improved in all the townships by the yearly extension of the cement drains. In the smaller townships little real nuisance is caused but at Kampala and, to a lesser extent, at Jinja the present system leaves much to be desired. Since the introduction of the water supply, flushing the drains during the dry season has done something to alleviate matters.

*Scavenging and Disposal of Refuse.*—Motor lorries are gradually replacing the old ox-carts and where these have been introduced they have made a marked improvement since the refuse can be more expeditiously removed and disposed of at a greater distance from the township. The new special lorries provided for Kampala have greatly improved this service in that township. The eventual disposal is either by incineration or where feasible reclamation of mosquito breeding areas.

*School Hygiene.*—It has not yet been found possible to introduce a special service for this work but visits are paid to the various schools by the District Medical Officer when required.

*Labour Conditions.*—The general conditions of housing and feeding are steadily being improved and the health of labour is generally good.

*Housing.*—The only stations now built in temporary materials are Kabale, Bubulu, Moroto and Moyo. Reconstruction of Arua station in permanent material was commenced during the year and should be completed in 1932.

The following improvements in the design of the houses were introduced :—

(a) Earth closets and kitchens connected to the houses by mosquito proofed passages.

(b) Fireplaces in the rooms.

(c) Modification of the plans in order to improve the ventilation in the dining room of the E4 houses.

*Food.*—In the townships where a European Sanitary Inspector is stationed routine examination of butchers' shops, bakeries, milk and other foods, is regularly carried out.

*Water.*—The water supplied by the water-works at both Kampala and Jinja is chlorinated as a routine measure. Routine bacteriological examinations are regularly carried out on both supplies, the result of which, since chlorination has been adopted, are satisfactory.

### **B. Staff.**

1. Dr. G. R. H. Chell, Deputy Director of Sanitary Service, was absent on leave from 7th April, until 8th December.
  2. Dr. H. R. Neilson, Senior Health Officer, was absent on leave from 17th January until 11th September; acted as Deputy Director of Sanitary Service from 18th September until 7th December.
  3. Dr. S. W. T. Lee, Senior Health Officer, acted as Deputy Director of Sanitary Service from 26th March until 17th September, and was absent on leave from 30th December until the end of the year.
  4. Dr. J. C. St. G. Earl, Health Officer, acted as Senior Health Officer on four occasions, *e.g.*, 15th January to 20th March, 26th March to 17th September, 18th September to 7th December, and from 24th December until the end of the year.
  5. Dr. R. S. McElroy, Health Officer, was absent on leave from 1st January until 11th March. Acted as Senior Health Officer from 21st March until 17th September.
  6. *European Sanitary Inspectors.*—
    - (1) Mr. G. Gillanders was absent on leave from 12th August until the end of the year.
    - (2) Mr. R. C. D. Hooper was on duty throughout the year.
    - (3) Mr. R. J. A. Wilkinson, was absent on leave from 1st January until 9th April.
    - (4) Mr. W. M. Carnie was on duty throughout the year.
  7. *Asiatic Sanitary Inspectors.*—
 

Mr. Hans Raj was on duty throughout the year.

Mr. Wazir Singh was on duty throughout the year.
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## SECTION IV.

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### **PORT HEALTH WORK AND ADMINISTRATION.**

The routine medical inspection of steamers has been discontinued as from the 1st January, 1931, subject to the reservation that inspection may be re-instituted when it is considered advisable to do so.

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## SECTION V.

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### **MATERNITY TRAINING SCHOOLS AND MATERNITY CENTRES.**

The Annual Reports of the Lady Coryndon Maternity Training School (Church Missionary Society) and of the Nsambya Maternity Training School (Mill Hill Mission) are published in Appendix No. V. and Appendix No. VI. of this Report.

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## SECTION VI.

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### **HOSPITALS AND DISPENSARIES.**

Table F shows medical units, beds, attendances, etc., for the Protectorate under districts.

A list of sub-dispensaries open or under construction during 1931 appears at page 38.

A statement of buildings erected, improvements to existing buildings and maintenance of buildings is shown at pages 36-37.

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TABLE F.—MEDICAL UNITS, BEDS

	BUGANDA PROVINCE.					WESTERN PROVINCE.			
	Entebbe District.	Mengo District.	Masaka District.	Mubende District.	TOTAL PROVINCE.	Toro District.	Ankole District.	Kigezi District.	TOTAL PROVINCE.
<b>Medical Units.</b>									
European Hospitals ... ..	1	1	...	...	2	...	...	...	...
Asiatic Hospitals ... ..	1	2	...	...	3	...	...	...	...
African Hospitals ... ..	1	3	1	1	6	1	1	1	3
Sub-Dispensaries ... ..	2	7	6	6	21	6	4	4	14
Other Units ... ..	5	6	24	6	41	9	9	6	24
<b>In-Patients.</b>									
BEDS AVAILABLE :									
European ... ..	5	16	...	...	21	...	...	...	...
Asiatic ... ..	4	28	...	...	32	...	...	...	...
African in Hospitals ... ..	57	334	77	16	484	40	38	53	131
African in Sub-dispensaries ... ..	...	...	10	...	10	96	...	...	96
TOTAL ... ..	66	378	87	16	547	136	38	53	227
CASES ADMITTED :									
European ... ..	35	335	...	...	370	...	...	...	...
Asiatic ... ..	22	658	...	...	680	...	...	...	...
African in Hospitals ... ..	1,082	6,120	1,541	231	8,974	649	787	809	2,245
African in Sub-dispensaries ... ..	...	...	47	...	47	1,110	...	...	1,110
TOTAL ... ..	1,139	7,113	1,588	231	10,071	1,759	787	809	3,355
TOTAL NUMBER OF IN-PATIENT DAYS ... ..	13,598	99,599	31,187	5,385	149,769	33,356	13,203	19,001	65,560
AVERAGE DAILY NUMBER IN WARDS :									
Hospitals ... ..	37·3	272·9	84·0	14·7	408·9	34·1	36·2	52·0	122·3
Sub-dispensaries ... ..	...	...	1·4	...	1·4	57·3	...	...	57·3
TOTAL ... ..	37·3	272·9	85·4	14·7	410·3	91·4	36·2	52·0	179·6
<b>Out-Patients.</b>									
TOTAL ATTENDANCES :									
Hospitals ... ..	35,209	152,822	73,529	12,446	274,006	33,467	115,534	43,788	192,789
Sub-dispensaries ... ..	48,239	213,489	100,607	128,647	490,982	75,296	118,786	76,642	270,724
TOTAL ... ..	83,448	366,311	174,136	141,093	764,988	108,763	234,320	120,430	463,513
<b>Total Cases.</b>									
European ... ..	472	1,693	28	8	2,201	46	94	6	146
Asiatic ... ..	1,172	2,667	124	29	3,992	53	96	33	182
Africans at Hospitals ... ..	8,599	45,584	12,591	2,132	69,906	10,634	20,266	7,354	38,254
Africans at Sub-dispensaries ... ..	7,979	39,780	22,976	17,694	88,429	20,860	26,582	8,855	56,297
TOTAL ... ..	18,222	90,724	35,719	19,863	164,528	31,593	47,038	16,248	94,879
MEDICAL EXAMINATIONS ... ..	6,881	6,850	3,550	176	17,457	2,142	5,067	741	7,950
GRAND TOTAL ... ..	25,103	97,574	39,269	20,039	181,985	33,735	52,105	16,989	102,829
<b>Surgical Operations.</b>									
General Anæsthesia ... ..	12	1,341	...	161	1,514	44	30	16	90
Spinal Anæsthesia ... ..	...	25	...	...	25	...	...	...	...
Local Anæsthesia ... ..	156	204	...	129	489	65	67	20	152
TOTAL ... ..	168	1,570	...	290	2,028	109	97	36	242



AND PATIENTS BY DISTRICTS.

EASTERN PROVINCE.							NORTHERN PROVINCE.						TOTAL UGANDA PROTEC- TORATE.
Busoga District.	Bugishu and Bugwere Districts.	Budama District.	Teso District.	Karamoja District.	Lango District.	TOTAL PROVINCE.	Bunyoro District.	Gulu District.	Madi Sub- District.	West Nile District.	Chua District.	TOTAL PROVINCE.	
1	1	...	...	...	...	2	...	...	...	...	...	...	4
2	1	...	1	...	1	5	2	...	...	...	...	2	10
2	1	1	1	1	1	7	3	1	1	1	1	7	23
5	7	3	4	1	3	23	8	2	5	5	...	20	78
17	43	9	20	...	14	103	14	3	1	20	1	39	207
4	5	...	...	...	...	9	...	...	...	...	...	...	30
6	2	...	2	...	4	14	5	...	...	...	...	5	51
126	90	40	56	16	58	386	97	22	39	40	23	221	1,222
55	104	8	...	6	20	193	...	...	8	20	...	28	327
191	201	48	58	22	82	602	102	22	47	60	23	254	1,630
24	31	...	3	...	...	58	...	...	...	...	...	...	428
58	14	...	7	...	9	88	14	...	...	...	...	14	782
2,015	1,087	1,240	1,195	538	1,042	7,117	1,123	799	281	512	678	3,393	21,729
2,173	1,233	245	...	99	176	3,926	...	...	221	282	...	503	5,586
4,270	2,365	1,485	1,205	637	1,227	11,189	1,137	799	502	794	678	3,910	28,525
70,971	47,138	26,404	16,839	6,977	23,932	192,261	23,749	21,568	14,275	13,894	14,267	87,753	495,343
125·8	80·4	60·3	46·1	13·8	57·7	384·1	65·0	59·1	24·3	24·4	39·1	211·9	1,127
68·6	48·7	12·1	...	5·3	7·9	142·6	...	...	14·8	13·7	...	28·5	230
194·4	129·1	72·4	46·1	19·1	65·6	526·7	65·0	59·1	39·1	38·1	39·1	240·4	1,357
77,819	25,794	23,974	100,583	4,291	60,802	293,263	120,385	38,660	27,012	62,349	29,976	278,382	1,038,440
62,952	138,859	81,258	180,843	6,866	104,526	575,304	156,026	48,169	62,820	200,304	...	467,319	1,804,329
140,771	164,653	105,232	281,426	11,157	165,328	868,567	276,411	86,829	89,832	262,653	29,976	745,701	2,842,769
358	161	83	72	6	67	747	123	13	...	46	15	197	3,291
1,051	758	331	423	4	500	3,067	364	72	1	104	101	642	7,883
21,600	9,263	7,128	28,571	1,004	12,015	79,581	17,264	9,781	4,986	13,285	9,534	54,850	242,591
34,827	64,745	20,759	45,138	1,994	21,403	188,866	20,446	10,694	13,552	29,609	...	74,301	407,893
57,836	74,927	28,301	74,204	3,008	33,985	272,261	38,197	20,560	18,539	43,044	9,650	129,990	661,658
2,097	6,627	359	...	2,078	109,129	120,290	70,410	20,519	52,755	37,171	25,199	206,054	351,751
59,933	81,554	28,660	74,204	5,086	143,114	392,551	108,607	41,079	71,294	80,205	34,849	336,044	1,013,409
951	170	106	91	1	395	1,714	258	112	...	41	8	419	3,737
...	...	...	88	...	...	88	...	...	...	...	...	...	113
46	102	96	90	30	61	425	46	10	...	17	53	126	1,192
997	272	202	269	31	456	2,227	304	122	...	58	61	545	5,042

## Statement of Buildings Erected, etc., during the Year 1931.

						<i>Expenditure.</i>
						£
ENTEBBE :—						
Alterations to Medical Laboratory	...	...	...	...	...	475
Alterations to Medical Store	...	...	...	...	...	264
KAMPALA :—						
Asiatic Hospital, completion	...	...	...	...	...	5,521
Electric Light Plant for Asiatic Hospital	...	...	...	...	...	222
European Hospital, improvements	...	...	...	...	...	313
MULAGO :—						
Electric Plant for Laboratory	...	...	...	...	...	284
One E4 Quarter	...	...	...	...	...	1,658
Isolation Hospital, completion	...	...	...	...	...	1,199
Out-patient Department, completion	...	...	...	...	...	4,160
ARUA :—						
Repairs and Improvements to Medical Buildings	...	...	...	...	...	927
KABALE :—						
Hospital, completion	...	...	...	...	...	1,368
MISCELLANEOUS :—						
Temporary Medical Buildings	...	...	...	...	...	926
MISCELLANEOUS MINOR WORKS :—						
SOROTI :—						
Two Latrines at Hospital	...	...	...	...	...	38
						<u>£17,355</u>

## Statement of Improvements made to Medical Buildings during the Year 1931.

						<i>Expenditure.</i>
						£   s.   cts.
ENTEBBE :—						
To provide one additional New Stove with hood at the European Hospital	...	...	...	...	...	10   12   07
To supply and fix two Enamelled Iron Baths at the European Hospital	...	...	...	...	...	17   19   93
Repairs to Kitchen and Doors to Dhobi's House and Cook's Quarters at European Hospital	...	...	...	...	...	10   17   90
To convert room into Operating Theatre at the Civil Hospital	...	...	...	...	...	31   14   76
FORT PORTAL :—						
Conversion of Medical Store into Offices	...	...	...	...	...	18   0   00
KAMPALA :—						
Installation of six Baths at the European Hospital	...	...	...	...	...	54   3   22
BOMBO :—						
Erection of a Latrine at the Hospital	...	...	...	...	...	72   1   16
JINJA :—						
Erection of two Earth Closets at the Native Hospital	...	...	...	...	...	37   6   14
MBARARA :—						
To provide Window Shades at the Dispensary	...	...	...	...	...	2   10   00
						<u>£255   5   18</u>



**Statement of Expenditure Incurred on the Maintenance of Buildings  
Controlled by the Medical Department during 1931.**

ENTEBBE :—

Laboratory, Old Entebbe ; European Hospital ; Native Hospital and Dispensary ; Sisters' Quarters ; Asiatic Hospital and Headquarters Office ... ..	£	s.	cts.
	217	0	39

KAMPALA :—

Civil Hospital ; Out-houses—Civil Hospital ; 2nd class E Quarters, European Hospital ; Nurses' Quarters—European Hospital ; and Clinical Laboratory ...	35	6	63
--	----	---	----

MAKERERE :—

Dispensary and Sick Room ... ..	11	46	
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MULAGO :—

Administrative Block ; Double Ward ; Dispenser's House ; Dispensary ; Laundry ; four 3rd class Houses ; two 2nd class Houses ; two 4th class Houses ; one 5th class House ; E 2 House ; E 3 House ; E 3 Quarters ; Sisters' Quarters ; Petrol Store ; Female Attendants' Quarters ; Dysentery Ward and Quarters for Staff ; and block of three Lecture Rooms ... ..	115	2	35
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BOMBO :—

Dispensary and Operating Room ; Doctor's House ; Hospital Ward ... ..	4	10	55
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MUBENDE :—

D.M.O's Quarters ; Sub-Assistant Surgeon's Quarters and Hospital Buildings ...	2	3	33
--	---	---	----

FORT PORTAL :—

D.M.O's Quarters and Native Hospital ... ..	39	13	32
---	----	----	----

JINJA :—

European Hospital ; Native Hospital Old Ward, New Ward, New Offices, New Ward 1929 ; Native Dispensary ; Isolation Building ; Indian Hospital Ward ; Nursing Sisters' Quarters ... ..	13	2	18
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MBALE :—

European Hospital ; Native Hospital : Dispensary and Administration Block ; Ward A ; Ward B ; Kitchen, Laundry and Asiatic Ward ... ..	180	8	32
---	-----	---	----

TORORO :—

Native Hospital Ward and Dispensary ... ..	8	15	51
--	---	----	----

LIRA :—

Native Hospital Administration Block and Permanent Sick Line ... ..	1	4	18
---	---	---	----

SERERE :—

Dispensary ... ..	10	00	
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SOROTI :—

Native Hospital Ward (Female) ; Post Mortem Room ; Administration Block ; Dispensary ; Store ; Laundry ; Ward (Male) ; Permanent Sick Line and Asiatic Ward ... ..	34	1	08
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MBARARA :—

Dispensary ; Native Hospital (Female Ward) ; Laundry ; Pack Store and Kitchen	16	0	65
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KABALE :—

Native Hospital Buildings ... ..	3	16	57
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MASAKA :—

Dispensary ; Native Hospital Ward ; Administration Block ; Female Ward, and Kitchen ... ..	13	15	06
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£686    1    58

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# A List of Sub-Dispensaries Open or Under Construction in 1931.

Name.	District.	Attendances 1931.	Year opened	Remarks.
Mukono ...	Mengo ...	34,298	1923	Permanent; ward not in use.
Kasangati ...	" ...	24,910	1923	Permanent.
Bowa ...	" ...	26,414	1923	Permanent.
Kalagala ...	" ...	27,892	1930	Permanent.
Kome ...	" ...	No returns	1923	Island sub-dispensary; temporary.
Buvuna ...	" ...	No returns	1923	Island sub-dispensary; temporary.
Nakasongola ...	" ...	16,537	1931	Temporary; opened January, 1931.
Wakiso ...	Entebbe ...	20,941	1923	Permanent.
Mbale ...	" ...	27,298	1923	Permanent; ward not in use.
Kasenyi ...	Mubende ...	22,436	1926	Permanent wards being built.
Mityana ...	" ...	32,056	1923	Permanent.
Kibale ...	" ...	31,402	1926	Temporary.
Kakumiro ...	" ...	23,246	1928	Temporary.
Madudu ...	" ...	8,843	1928	Temporary.
Kyanasoke ...	" ...	10,664	1931	Temporary; opened July, 1931.
Kalungu ...	Masaka ...	24,037	1927	Temporary.
Kalisizo ...	" ...	26,915	1923	Temporary.
Katera ...	" ...	6,966	1926	Permanent; ward for 10 beds.
Kalangala ...	" ...	6,900	1923	Temporary; island sub-dispensary.
Rakai ...	" ...	12,176	1927	Temporary.
Leontonde ...	" ...	23,613	1927	Temporary.
Kaliro ...	Busoga ...	15,336	1927	New permanent unit with 30-bedded ward; built 1931.
Namwendwa ...	" ...	9,148	1925	Temporary; new permanent unit under construction; 6 beds at present.
Kiyunga ...	" ...	6,713	1925	Temporary; 7 beds.
Namungalwe ...	" ...	15,393	1925	Temporary; 6 beds.
Nabitende ...	" ...	16,363	1927	Temporary; 6 beds.
Nagongera ...	Budama ...	31,021	1927	Temporary.
Buteleja ...	" ...	23,216	1927	Temporary.
Masafu ...	" ...	27,021	1926	Permanent; new unit with accommodation for 8 in-patients opened in 1931 to replace Lumino which was closed.
Bubulu ...	Bugishu ...	19,878	1922	Permanent; 20 beds.
Budadiri ...	" ...	47,227	1922	Temporary; 20 beds.
Butiru ...	" ...	6,092	1931	Temporary; 10 beds; opened July, 1931.
Bulecheke ...	" ...	11,467	1931	Temporary; 10 beds; opened August, 1931.
Budaka ...	Bugwere ...	13,767	1930	Temporary.
Kamuge ...	" ...	18,804	1922	Permanent; 20 beds.
Bukedia ...	" ...	21,624	1926	Permanent; 24 beds; new permanent ward proposed for 1932.
Katakwe ...	Teso ...	35,300	1926	Temporary.
Serere ...	" ...	77,326	1924	Permanent.
Amuria ...	" ...	49,328	1924	Temporary; arrangements have been made for building a permanent unit in 1932.
Kamod ...	" ...	18,889	1931	Temporary; opened January, 1931.
Aduku ...	Lango ...	35,645	1922	Temporary; a new permanent unit is under construction.
Kaberaimaido ...	" ...	56,578	1931	A permanent unit with ward of 20 beds; opened February, 1931.
Aboki ...	" ...	12,303	1931	Temporary; opened August, 1931.
Kakamari ...	Karamoja ...	6,866	1930	Temporary; previously medical unit of Northern Frontier Force, K.A.R.
Kakabara ...	Toro ...	13,925	1922	Temporary; 32 beds.
Kasule ...	" ...	13,489	1930	Temporary; 10 beds.
Butiti ...	" ...	13,846	1925	Temporary; 12 beds.
Bundibugyo ...	" ...	14,357	1926	Temporary; 12 beds.
Kisomoro ...	" ...	15,389	1926	Temporary; 12 beds.
Kassesse ...	" ...	4,290	1928	Temporary; 18 beds; closed 25th August, 1931; a new building under erection at Bugoye.
Rwaitengya ...	" ...	—	—	Under construction, 1931.
Bushenyi ...	Ankole ...	28,768	1922	Permanent.
Kagamba ...	" ...	30,413	1922	(Lwasamairi) temporary; being re-built.
Ibanda ...	" ...	54,639	1922	Semi-permanent (Kitwe).
Kinoni ...	" ...	4,966	1931	Permanent; opened November, 1931.
Mpalo ...	Kigezi ...	19,775	1922	Temporary.
Rukingiri ...	" ...	19,560	1922	Temporary.
Kinkizi ...	" ...	15,979	1922	Temporary.
Kisolo ...	" ...	21,328	1922	Temporary.
Dwoli ...	Bunyoro ...	27,304	1925	Temporary.
Kizirinfumbi ...	" ...	26,312	1925	Semi-permanent.
Kisaru ...	" ...	26,036	1931	Permanent; opened April, 1931.
Masindi Port ...	" ...	8,490	1925	Permanent.
Kirandongo ...	" ...	21,299	1926	Permanent.
Kinyala ...	" ...	16,569	1925	Permanent.
Busingiro ...	" ...	11,002	1924	Permanent; closed and re-opened in 1929.
Bujanga ...	" ...	19,014	1925	Temporary; new temporary building under construction at Bujenje.
Pader ...	Chua ...	—	—	Under construction, 1931.
Minakulu ...	Gulu ...	33,303	1930	Permanent.
Attiak ...	" ...	15,136	1931	Permanent; opened January, 1931.
Awach ...	" ...	—	—	Under construction, 1931.
Ajumani ...	Madi ...	20,473	1927	Permanent.
Gimara ...	" ...	6,909	1931	Gland examination post converted; temporary; opened January, 1931.
Zaipi ...	" ...	7,939	1931	do do do do do
Ogujebbe ...	" ...	10,227	1931	do do do do do
Laropi ...	" ...	17,272	1931	do do do do do
Terego ...	West Nile ...	89,598	1925	Permanent (?).
Aringa ...	" ...	51,846	1928	Temporary.
Pai-Ida ...	" ...	27,771	1930	Temporary.
Nebbi ...	" ...	10,730	1931	Temporary; opened September, 1931.
Packwach ...	" ...	20,359	1930	Temporary.
Warr ...	" ...	—	—	Under construction, 1931.
Udupe ...	" ...	—	—	Gland examination post; to be converted 1932.
Ladonga ...	" ...	—	—	do do do
Rumogi ...	" ...	—	—	do do do



TABLE G.

MEDICAL STORE, ENTEBBE.

The following table sets out the issue of certain drugs and dressings from the Medical Store, Entebbe, for the last seven years :—

			1925	1926	1927	1928	1929	1930	1931
Acid. Boric	...	lbs.	859	882	990	1,205	1,745	1,445	1,291
Acid. Carbolic	...	„	224	367	447	624	513	653	624
Ammon. Carb.	...	„	261	416	578	694	911	1,196	870
Hexamina	...	„	113	218	300	258	301	259	236
Chloroform	...	„	329	339	501	569	507	571	615
Glycerin	...	„	520	580	697	1,082	1,318	1,441	1,476
Mag. Sulph.	...	„	10,155	13,014	13,182	13,612	13,054	15,855	18,130
Ol. Ricini	...	„	2,040	2,414	2,501	2,761	3,000	3,419	3,932
Paraff. Molle Flav.	...	„	2,515	2,240	2,924	2,981	2,840	3,935	4,965
Potas. Iodid.	...	„	603	669	804	729	1,081	1,046	1,057
Quinin Bisulph.	...	„	442	693	586	628	787	934	974
Quinin. Hcl.	...	„	146	195	112	145	153	109	69
Quinin. Bihcl.	...	ozs.	176	120	128	152	313	528	392
Quinin. Sulph.	...	lbs.	34	50	37	81	50	50	15
Quinin. Ethylcarb.	...	ozs.	126	162	260	370	368	364	168
Lint, boric	...	lbs.	4,722	6,370	7,580	9,466	10,976	13,561	12,563
Lint, plain	...	„	4,932	6,014	7,470	9,243	10,736	11,274	10,809
Wool, plain	...	„	5,052	6,780	6,628	8,765	12,335	13,143	13,929
Wool, grey	...	„	5,943	5,453	5,686	6,565	7,762	10,135	10,897
Tow, plain	...	„	1,237	1,700	920	2,559	1,494	666	437
Tow, carb.	...	„	333	700	1,224	1,343	1,637	1,327	3,014

TABLE H.

PHARMACEUTICAL SECTION 1931.

			1925	1926	1927	1928	1929	1930	1931
Tincture	...	pts.	1,914	2,293	2,768	2,533	4,420	5,236	4,954
Liniments	...	„	1,378	1,165	2,387	2,455	3,879	3,843	3,873
Ointments	...	lbs.	4,487	4,703	7,183	6,604	10,389	12,313	11,024
Dusting powders	..	„	432	527	810	303	602	700	800
Infusions, conc.	...	pts.	362	422	704	752	1,236	1,256	1,064
Hard soap	...	lbs.	2,580	6,000	10,130	10,910	14,370	6,250	—
Soft soap	...	„	1,880	3,948	5,960	5,426	6,096	8,838	9,280
Sundries	...	„	994	1,905	2,113	3,933	5,108	5,187	3,905
Bismuth sodium potass. tart.	„	„	—	—	20	40	24	5	17½

SECTION VII.

PRISONS AND ASYLUMS.

Report on Prisons for 1931.

There are seventeen Protectorate prisons in which :—

(a)	The daily average number in gaol was	...	...	...	2,074·31
(b)	The total number of hospital admissions was	...	...	...	1,994
(c)	The daily average on the sick list was	...	...	...	122·6
NOTE :—Europeans admitted to prison					4
Asiatics admitted to prison					68

TABLE I.

Deaths, number and causes of.—

Pneumonia lobar	...	6	Typhoid (perforation)	...	1
Pneumonia unclassified	...	8	Senile decay	...	1
Pneumonia streptococcal	and		Cerebral softening and myelitis	...	1
pericarditis	...	1	Atheroma and coronary obstruction	...	1
Septicæmia pneumococcal	...	1	Myocarditis	...	1
Meningitis pneumococcal	...	1	Acute mania	...	1
Phthisis	...	2	Insanity and injury	...	1
Bronchitis	...	1	Epilepsy	...	1
Influenza	...	1	Diarrhœa	...	1
Dysentery bacillary	...	1	Syphilis iii	...	1
Dysentery amœbic	...	2	Not known	...	1
Dysentery unclassified	...	2			
TOTAL					37

Prevailing diseases were malaria, respiratory and digestive complaints, ulcers and minor injuries.

KAMPALA.

(a)	Daily average number in prison	...	...	...	305
(b)	Total number of hospital admissions	...	...	...	534
(c)	Daily average on sick list	...	...	...	12

Accommodation.—Association wards: Native 6, Indians 2, remands 1. Cells; male 9, female 8. Hospital ward 1. These are all permanent buildings, and provide accommodation for 322 prisoners, allowing 28 sq. ft. per prisoner.

Sanitary conditions.—Good.

Health.—Good.

Deaths.—Five.

Diet.—

Maize meal	...	20	ozs.	Fresh vegetables	...	6	ozs.
Beans	...	5	ozs.	or Sweet potatoes	...	10	ozs.
Dried meat	...	2	ozs.	Salt	...	$\frac{1}{2}$	oz.
Ground nuts	...	3	ozs.				

LUZIRA.

(a)	Daily average number in prison	...	...	...	654
(b)	Total number of hospital admissions	...	...	...	855
(c)	Daily average on sick list	...	...	...	20

Accommodation.—12 association wards and 178 single cells, all in permanent material. Punishment and condemned cells 14. There are two hospital wards, 13 hospital cells and five segregation cells. There are also six juvenile reformatory association wards, these latter being temporary buildings.

Sanitary conditions.—Good.

Health.—Good.

Deaths.—Nine.

Diet.—Sweet potatoes, beans, etc., as at Kampala prison.



## JINJA.

(a)	Daily average number in prison	...	...	...	135.05
(b)	Total number of hospital admissions	...	...	...	106
(c)	Daily average on sick list	...	...	...	5

*Accommodation.*—Seven association wards and six cells to accommodate 83 prisoners. Overcrowded continually.

*Sanitary conditions.*—This is an old building and generally insanitary. The courtyard has received attention during the year, a six-feet wide concrete pavement having been constructed around all four sides and the remainder having been gravelled to a depth of six inches. There are no bathing and washing facilities and the warders' lines are in a dilapidated condition. A new prison is required.

*Health.*—Prevalent diseases were malaria, syphilis, yaws and local injuries.

*Deaths.*—Two. Acute mania and pneumonia.

*Diet.*—Usual scale. A prison shamba was started, and since July they have been able to supply half of their required rations.

## MBALE.

(a)	Daily average number in prison	...	...	...	119
(b)	Total number of hospital admissions	...	...	...	40
(c)	Daily average on sick list	...	...	...	5

*Accommodation.*—Nine association wards and six cells to accommodate 100 prisoners. Overcrowding frequent.

*Sanitary conditions.*—Recent improvements include cementing of all floors of cells, two new water tanks, kitchen completely renovated, and gutterings repaired, and the building is now as satisfactory as an old building can be made. It is recommended that a new site for a prison be chosen some miles away from the centre of the township.

*Health.*—Prevalent diseases were respiratory complaints, ulcers, syphilis, myalgia, diarrhoea and malaria.

*Deaths.*—Six, four being due to pneumonia and two to dysentery.

*Diet.*—The ration approximates closely to the scale set down for Kampala and Entebbe, with slight variations, and is satisfactory.

## ENTEBBE.

(a)	Daily average number in prison	...	...	...	125
(b)	Total number of hospital admissions	...	...	...	51
(c)	Daily average on sick list	...	...	...	4

*Accommodation.*—Two permanent association wards to house 143 prisoners.

*Sanitary conditions.*—Satisfactory.

*Health.*—Good. Prevalent diseases: malaria, local injuries, various septic conditions and myalgia.

*Deaths.*—Nil.

*Diet.*—In accordance with the scale. The meat ration for prisoners undergoing sentences up to three months was withdrawn in November. A large plot of land has been cultivated during the year and an abundance of green vegetables is practically always available.

## MASAKA.

(a)	Daily average number in prison	...	...	...	32
(b)	Total number of hospital admissions	...	...	...	15
(c)	Daily average on sick list	...	...	...	3

*Accommodation.*—Two permanent association wards, and four small cells to house 67 prisoners.

*Sanitary conditions.*—Satisfactory.

*Health.*—Prevalent diseases: venereal diseases and malaria.

*Deaths.*—Nil.

*Diet.*—Muhogo, maize meal, potatoes, beans, bananas and groundnuts.

## MUBENDE.

(a)	Daily average number in prison	...	...	...	...	13
(b)	Total number of hospital admissions	...	...	...	...	1
(c)	Daily average on sick list	...	...	...	...	4

*Accommodation.*—Four permanent association wards to house 26 prisoners.

*Sanitary conditions.*—Satisfactory.

*Health.*—Good. Ulcers and influenza were the prevalent complaints.

*Deaths.*—Nil.

*Diet.*—Maize meal, beans, groundnuts, etc.

## SOROTI.

(a)	Daily average number in prison	...	...	...	...	113
(b)	Total number of hospital admissions	...	...	...	...	122
(c)	Daily average on sick list	...	...	...	...	9

*Accommodation.*—Seven temporary association wards to house 148 prisoners.

*Sanitary conditions.*—Satisfactory.

*Health.*—Prevalent diseases: malaria and venereal diseases and intestinal troubles.

*Deaths.*—One due to myocarditis.

*Diet.*—As to scale, varied with prison shamba produce. A permanent prison is required, owing to the fact that plague is endemic in this area.

## LIRA.

(a)	Daily average number in prison	...	...	...	...	82·66
(b)	Total number of hospital admissions	...	...	...	...	54
(c)	Daily average on sick list	...	...	...	...	5·08

*Accommodation.*—Eight temporary association wards to house 120 prisoners.

*Sanitary conditions.*—Satisfactory.

*Health.*—Prevalent complaints: malaria and minor local injuries.

*Deaths.*—Two, both due to pneumonia

*Diet.*—Potatoes, pigeon peas, simsim, groundnuts.

## MOROTO.

(a)	Daily average number in prison	...	...	...	...	17·36
(b)	Total number of hospital admissions	...	...	...	...	7
(c)	Daily average on sick list	...	...	...	...	0·21

*Accommodation.*—One permanent association ward and two cells to house 41 prisoners.

*Sanitary conditions.*—Good.

*Health.*—Prevalent diseases: chest and intestinal complaints.

*Deaths.*—Nil.

*Diet.*—Maize, meat and vegetables daily.

## MASINDI.

(a)	Daily average number in prison	...	...	...	...	57
(b)	Total number of hospital admissions	...	...	...	...	52
(c)	Daily average on sick list	...	...	...	...	5

*Accommodation.*—Three semi-permanent association wards and one cell to house 44 prisoners. This prison is quite inadequate and has been grossly overcrowded during the latter part of the year. A much larger and permanent prison has been needed for some years.

*Sanitary conditions.*—Satisfactory.

*Health.*—Prevalent diseases: chest complaints and minor injuries.

*Deaths.*—Two, due to pneumonia and influenza respectively.

*Diet.*—According to regulations.



## ARUA.

(a)	Daily average number in prison	...	...	...	...	69·91
(b)	Total number of hospital admissions	...	...	...	...	27
(c)	Daily average on sick list	...	...	...	...	11·19

*Accommodation.*—Nine semi-permanent association wards and six cells capable of housing 87 prisoners.

*Sanitary conditions.*—Good, but floors of wards and cells should be cemented.

*Health.*—Prevalent diseases: chest complaints, yaws and ulcers.

*Deaths.*—Four. Bronchitis, insanity and injury, epilepsy and one not diagnosed.

*Diet.*—Potatoes, beans, groundnuts and muhogo.

## GULU.

(a)	Daily average number in prison	...	...	...	...	96
(b)	Total number of hospital admissions	...	...	...	...	12
(c)	Daily average on sick list	...	...	...	...	4

*Accommodation.*—Eight temporary association wards and three cells to house 80 prisoners. Overcrowding is continuous.

*Sanitary conditions.*—Good.

*Health.*—Good. The prevalent complaints were minor injuries.

*Deaths.*—Nil.

*Diet.*—Wimbi flour or potatoes, beans, groundnuts or simsim.

## KITGUM.

(a)	Daily average number in prison	...	...	...	...	98
(b)	Total number of hospital admissions	...	...	...	...	31
(c)	Daily average on sick list	...	...	...	...	9

*Accommodation.*—Six semi-permanent wards and three cells to house 100 prisoners. This is a new building completed early in 1931.

*Sanitary conditions.*—Good.

*Health.*—The prevalent complaints were injuries, guinea-worm, ulcers, yaws and respiratory and intestinal affections.

*Deaths.*—Nil.

*Diet.*—Bulo flour, beans and simsim, and potatoes when available.

## FORT PORTAL.

(a)	Daily average number in prison	...	...	...	...	39·26
(b)	Total number of hospital admissions	...	...	...	...	6
(c)	Daily average on sick list	...	...	...	...	2·05

*Accommodation.*—Six temporary association wards to house 30 prisoners. (The surplus sleep at Kabarole native administration prison).

*Sanitary conditions.*—Good.

*Health.*—Satisfactory. Local injuries and minor ailments were the most prevalent complaints.

*Deaths.*—Nil.

*Diet.*—Scale adhered to as far as possible.

## KABALE.

(a)	Daily average number in prison	...	...	...	...	60
(b)	Total number of hospital admissions	...	...	...	...	29
(c)	Daily average on sick list	...	...	...	...	10

*Accommodation.*—Six temporary association wards to house 55 prisoners.

*Sanitary conditions.*—Good, but gaol generally overcrowded.

*Health.*—Prevalent diseases: local injuries and climatic complaints. A small outbreak of chicken-pox occurred during the year.

*Deaths.*—Two, both from amœbic dysentery.

*Diet.*—Millet flour, potatoes, beans and peas.

## MBARARA.

(a)	Daily average number in prison	...	...	...	...	58.07
(b)	Total number of hospital admissions	...	...	...	...	52
(c)	Daily average on sick list	...	...	...	...	14.07

*Accommodation.*—This building, which is built of semi-dried brick and is over 20 years old, consists of two association wards and four cells. Its total accommodation is for 30 prisoners, so as will be noticed, it is practically always grossly overcrowded. As it is heavily infested with spirillum tick, and it is impossible, owing to the nature of the building to eradicate them, a new permanent prison is a matter of great urgency.

*Sanitary conditions.*—Unsatisfactory, *see* above.

*Health.*—Outbreaks of chicken-pox are common.

*Deaths.*—Four: lobar pneumonia 2, diarrhoea 1, syphilis iii 1.

*Diet.*—According to scale.

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**Mental Hospital, Hoima.**


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The old prison building at Hoima still serves as the mental hospital. No major alterations were undertaken during the year. A modern hospital with accommodation for a larger number of patients is under consideration.

## ADMISSIONS, DEATHS, ETC., DURING THE YEAR.

			<i>Male.</i>		<i>Female.</i>		<i>Total.</i>
Inmates remaining 31st December, 1930	...	...	40	...	18	...	58
Number admitted during the year	...	...	17	...	7	...	24
Number released	...	...	5	...	3	...	8
Number escaped	...	...	—	...	—	...	—
Number transferred	...	...	2	...	—	...	2
Number who died	...	...	6	...	4	...	10
Number remaining 31st December, 1931	...	...	46	...	18	...	64

## CAUSES OF DEATH.

				<i>Male.</i>		<i>Female.</i>		<i>Total.</i>
Meningitis	...	...	...	1	...	—	...	1
Chronic meningitis	...	...	...	—	...	2	...	2
Exhaustion	...	...	...	2	...	1	...	3
Asthenia	...	...	...	1	...	1	...	2
Encephalitis lethargica	...	...	...	1	...	—	...	1
Chronic bronchitis and exhaustion	...	...	...	1	...	—	...	1
				—		—		—
				6	...	4	...	10
				—		—		—

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MENTAL HOSPITAL.

TABLE SHOWING THE MOVEMENTS OF THE MENTAL HOSPITAL POPULATION FOR EACH YEAR FOR THE TEN YEARS 1922—1931  
TOGETHER WITH THE RECOVERY AND DEATH RATES.

Year.	First Admissions.			Re-Admissions.			Total Admissions.			Number Discharged.			Number Died.			Number Remaining at end of Year.			Average Daily Number on Register.			Percentage of Discharges on Total Admissions.			Percentage of Deaths on Average Daily Number on Register.		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
1921	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24	3	27	—	—	—	—	—	—	—	—	—
1922	11	3	14	1	—	1	12	3	15	7	1	8	9	—	9	20	5	25	20	3	23	53.3	33.3	53.3	45.0	—	21.4
1923	31	6	37	—	—	—	31	6	37	12	3	15	10	2	12	29	6	35	26	6	32	38.7	50.0	40.5	38.4	33.3	37.5
1924	20	8	28	—	—	—	20	8	28	8	—	8	12	3	15	29	11	40	29	9	38	40.0	—	28.5	41.3	33.3	39.4
1925	26	4	30	—	—	—	26	4	30	3	—	3	9	3	12	43	12	55	32	11	43	11.5	—	10.0	28.1	27.2	27.9
1926	29	13	42	1	—	1	30	13	43	5	1	6	16	4	20	52	20	72	48	16	64	16.6	7.6	13.9	33.3	25.0	31.2
1927	15	5	20	2	—	2	17	5	22	15	7	22	17	4	21	37	14	51	38	18	56	88.2	140.0	100.0	44.7	22.2	37.5
1928	21	5	26	3	1	4	24	6	30	2	—	2	18	1	19	41	19	60	37	16	53	8.3	—	6.6	48.6	6.2	35.8
1929	22	7	29	1	—	1	23	7	30	10	4	14	14	1	15	40	21	61	37	20	57	43.4	57.1	46.6	37.8	5.0	26.3
1930	14	3	17	1	—	1	15	3	18	6	4	10	9	2	11	40	18	58	37	19	56	40.0	133.3	55.5	24.3	10.5	19.6
1931	16	6	22	1	1	2	17	7	24	5	3	8	6	4	10	46	18	64	42	17	59	29.3	42.8	33.3	14.3	23.5	16.9

## SECTION VIII.

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### METEOROLOGY

All available information under this head is published in the Blue Book.

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## SECTION IX.

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### SCIENTIFIC.

Scientific papers published during the year 1931 by members of the Medical Staff:—

DR. R. S. F. HENNESSEY.—

“Some Remarks on Laboratory Medicine with special reference to certain common Investigations.”—*Kenya and East Africa Medical Journal*, Vol. VIII, No. 7, p. 200, October, 1931.

DR. R. E. BARRETT.—

“On the question of Immunity in Infants to Human Trypanosomiasis.”—*Transactions of the Royal Society of Tropical Medicine and Hygiene*, November, 1931.

MR. G. H. E. HOPKINS, M.A., F.E.S.—

“Larvæ of Ethiopian Mosquitoes.”—*Bulletin of Entomological Research*, XXII, Part I, pp. 89-104 (1931).

“Mosquitoes in Kampala.”—*Uganda Herald*, July 10th, 1931.

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## ANNUAL REPORT OF THE LABORATORY SECTION FOR THE YEAR 1931.

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### PART I.

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#### (a) General Review of 1931.

This report covers the year ending 31st December, 1931.

During the year important changes have taken place in the Laboratory Services Division.

The beginning of the year saw the final severance of the Human Trypanosomiasis Institute from the Medical Department. This removed all research work in connection with trypanosomiasis which has been carried on in this laboratory for many years past, and we regretfully parted from Dr. Duke, who had been in charge of this research as well as head of the Laboratories Division for practically twenty years.

The Laboratory Service also lost the members of the Malaria Unit which has been disbanded, and the Medical personnel transferred to the Sanitation Division while the Entomological section went to the Agricultural Department. These two changes have curtailed considerably the work of the Laboratory Division.

Also during the year the Laboratory Service has been transferred to Kampala, the laboratory in Entebbe having been re-allocated to the Veterinary Department for whom originally it had been built. The Laboratory staff has been installed in the old administrative building of Mulago Hospital which was vacant on the completion of the new out-patient clinic.

The preparation of calf-lymph for vaccination against smallpox was stopped in October last and the Health Department are obtaining their supplies now from Nairobi.

Also the preparation and issue of plague vaccine has been restricted in conformity with the suggestions made by Sir Edward Thornton in his report on plague in Uganda.

The motor laboratory was used by Dr. Hennessey on his tour of investigation to Lira and was found eminently useful for such work and a most valuable adjunct to the Laboratory. It would have been used on the expedition to Arua but was undergoing repair. It is hoped to use this on many such occasions in the future.

The work of training native laboratory attendants to assist medical officers in the out-stations is still being attempted. We have from six to ten in regular training but it is very uphill work as few reach the standard we have set and only about one in twenty proves really good and reliable. A certain number reach a fair standard of proficiency. It is hoped eventually to get better educated boys from the various provinces as at present we have Baganda only and these cause trouble as they do not like being sent away from their own province or homes. It stands to reason that it would be more satisfactory to have boys working among their own tribes.

#### (b) Staff and their Duties.

The Senior Bacteriologist has acted as Deputy Director of Laboratory Service throughout the year.

Dr. Willans went on home leave in January and returned in December.

Dr. Hennessey was in charge of the laboratory work in Kampala from the beginning of the year till he went on home leave in August. During that time he also lectured on Pathology and Bacteriology in the Native Medical School. In January he went to Lira to trace the source of infection of some typhoid cases which had occurred there.

Mr. E. C. Haddon, A.I.C., Analytical Chemist, was on duty throughout the year. In June—July he proceeded to Arua to investigate the water supply.

Mr. J. Stewart, Laboratory Assistant, was on duty in Entebbe from January to June, then in Kampala for the remainder of the year.

Mr. S. G. Laws, Laboratory Assistant, was in Kampala throughout the year and assisted Dr. Hennessey in demonstrating to the native medical students.

Mr. Addington, Laboratory Assistant, was in Entebbe till November, when he came through to Kampala.

PART II.

(a) Work Done at the Entebbe Laboratory.

SUMMARY OF ROUTINE EXAMINATIONS.

A. ROUTINE.

A. <i>Blood examinations :—</i>			<i>Europeans.</i>		<i>Asiatics.</i>		<i>Natives.</i>		<i>Total.</i>
For parasites	...	...	139	...	207	...	2,034	...	2,380
Differential leucocyte counts		...	2	...	1	...	4	...	7
Blood cultures	...	...	1	...	—	...	2	...	3
Agglutination tests	...	...	1	...	1	...	3	...	5
									2,395
<i>B. Faeces examinations :—</i>									
Microscopical for ova		...	1	...	4	...	42	...	47
Microscopical for protozoa		...	7	...	2	...	15	...	24
For occult blood	...	...	2	...	—	...	—	...	2
Cultural	...	...	1	...	—	...	1	...	2
									75
<i>C. Urine examinations :—</i>									
General and microscopical		...	38	...	82	...	35	...	155
<i>D. Miscellaneous examinations</i>									
	...	...	—	...	—	...	—	...	75
<i>E. Autogenous vaccines</i>									
	...	...	4	...	1	...	2	...	7
<i>F. Rats dissected and examined for B. pestis</i>									
		...		...		...		...	603
<i>G. Bacteriological examinations of water :—</i>									
Kampala public supply	...	...		...		...		...	2
Jinja public supply	...	...		...		...		...	2
Entebbe Government House supply		...		...		...		...	2

*Blood Examinations.*—These were done in the usual way, the thick film being stained by the method of Manson and Thornton and the thin films by that of Leishman. The thin film was not as a rule searched to determine the type of malarial parasite unless specially indicated. Among the slides, 319 were found to be infected with microfilaria. No doubt the incidence would have been higher if films were always searched for this parasite. Those noted were found in examining for malaria.

				Malarial Parasites.	Spirochæta.	Negative.	Total.
European	...	...	...	30	—	109	139
Asiatic	...	...	...	64	—	143	207
Native	...	...	...	751	12	1,271	2,034
Total Cases				845	12	1,523	2,380
Per cent. Infected				35·5	0·5	64·0	—

*Rat Examinations.*—Of the 603 rats examined two only were found to contain organisms resembling *B. pestis*.

B. PLAGUE AND SMALLPOX VACCINES.

*Plague Vaccine.*—As mentioned before in accordance with Sir Edward Thornton's recommendations only actual contacts were inoculated against plague during the year :—

No. of doses prepared	...	...	...	...	12,700
No. of doses issued	...	...	...	...	7,270

*Calf Lymph.*—Mr. J. Stewart, Laboratory Assistant, was responsible for the preparation of this for the greater part of the year. The number of calves used was 30, they gave an average yield of 7 grammes of pulp per calf. The number of doses issued is considerably less than last year and the causes for this drop were :—

- (1) Less lymph was called for by Medical Officers.
- (2) The closing down of the lymph establishment as from the beginning of October.
- |                          |     |     |     |     |         |
|--------------------------|-----|-----|-----|-----|---------|
| Number of doses prepared | ... | ..  | ... | ... | 175,196 |
| Number of doses issued   | ... | ... | ... | ... | 146,876 |



### C. CHEMICAL SECTION.

Under the charge of Mr. E. C. Haddon, A.I.C., the work undertaken during the year comprised the following specimens for analysis:—

<i>Pathological :—</i>				<i>Foods :—</i>			
Urine	...	...	28	Millet (large)	...	...	1
Fæces	...	...	1	Millet (small)	...	...	1
Blood (human)	...	...	5	Sweet-potato	...	...	1
Milk	...	...	2	Banana (small yellow)	...	...	1
Vomit	...	...	1	Banana flour	...	...	1
Cerebro-spinal fluid	...	...	1	Maize flour	...	...	1
Test meal	...	...	1	Mahogo ...	...	...	1
Pleural fluid	...	...	1	Ground-nuts	...	...	1
<i>Medico-legal :—</i>				Beans (mutike)	...	...	1
Toxicological	...	...	34	Sim-sim (sesame) oil	...	...	1
Medicines	...	...	2	<i>Miscellaneous :—</i>			
Milk (cow)	...	...	2	Colloidal iron preparation	...	...	1
Blood stains	...	...	11	Aerated water	...	...	2
<i>Drinking Waters (chemical) :—</i>				Denatured spirit	...	...	1
Entebbe tank	...	...	1	Native liquor	...	...	1
Lake Katwe	...	...	3	Sugar	...	...	1
Kampala public supply	...	...	13				
Arua	...	...	6				
Tororo	...	...	1				
Jinja	...	...	1				

In June the Chemist proceeded to Arua to investigate and report on the water supply there.

The supply consisted of a number of seepages containing muddy and dangerously polluted water. The collection of rain-water in tanks was suggested as a provisional means of obtaining a safe supply of potable water.

At the request of the Deputy Director of Sanitary Service a number of foodstuffs were purchased from vendors in the public market and subjected to analysis to determine the food values from a chemical point of view. As there is no guarantee of the purity of such samples, indeed some were obviously of a very inferior quality, the analytical figures obtained have only a very limited value, hence are not published here.

An interesting sample of water from Lake Katwe was received for examination from the Director of Geological Surveys. The water was rose-pink in colour and was practically a saturated solution of sodium carbonate containing a red pigment, an examination of which suggested that the colouring matter is of bacterial origin.

(b) **Work done at the Kampala Laboratory.**

## SUMMARY OF ROUTINE EXAMINATIONS.

A. Blood examinations :—			Europeans.		Asiatics.		Natives.		Total.
For parasites	...	...	1,119	...	68	...	8,516	...	9,703
Differential leucocyte counts	...	...	135	...	48	...	287	...	470
Total cell counts	...	...	15	...	—	...	245	...	260
Blood cultures	...	...	3	...	1	...	28	...	32
Agglutination tests	...	...	18	...	19	...	295	...	332
Van den Bergh reactions	...	...	—	...	1	...	18	...	19
Blood sugar estimations	...	...	1	...	4	...	16	...	21
Blood urea estimations	...	...	—	...	1	...	2	...	3
Blood grouping	...	...	—	...	1	...	4	...	5
									10,845
B. Fæces examinations :—			Europeans.		Asiatics.		Natives.		Total.
Microscopical for ova	...	...	59	...	22	...	4,693	...	4,774
Microscopical for protozoa	...	...	83	...	8	...	518	...	609
For occult blood	...	...	11	...	—	...	—	...	11
Cultural	...	...	5	...	—	...	33	...	38
									5,432

C. Urine examinations:—				Europeans.	Asiatics.	Natives.	Total.
General and microscopical	...	...	...	106	48	3,303	3,457
Cultural	...	...	...	9	2	28	39
							3,496
D. Miscellaneous examinations	...	...	...	229	33	1,719	1,981
E. Autogenous vaccines	...	...	...	18	8	15	41
F. Milk:—							
Chemical	...	...	...	...	...	...	34
Bacteriological	...	...	...	...	...	...	2
							36
G. Examination of water, mineral drinks, etc.:—							
Bacteriological	...	...	...	...	...	...	45
H. Dark ground examinations for <i>Tr. pallidum</i> :—					...	...	750
I. Sachs-Georgi tests	...	...	...	...	...	...	14,281
J. Wassermann tests	...	...	...	...	...	...	777
K. Histological examinations	...	...	...	...	...	...	193

Examination of Blood.—A thick and a thin film was taken from each case and stained by the method of Manson and Thornton. This method proved very satisfactory. In the infected cases, thick and thin films were examined for identification of parasites, except where the thick film showed a scanty infection. Fifteen minutes were devoted to each thick film before reporting as negative.

The appended Table I shows the rate of infection for each month of the year. Of the 9,703 cases examined, 3,291 (33·91%) showed infection with malarial parasites, 54 (0·55%) were infected with the spirochæte of relapsing fever, and the remaining 6,358 were negative.

Of the above 9,703 cases, 284 films showed microfilaria. The incidence would no doubt be much higher were films specially searched for this. Those noted here were found during the routine search for malarial parasites.

Table II gives a summary of infections according to race.

TABLE I.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
<i>P. falciparum</i> ...	12·7	12·1	18·5	20·1	26·6	25·5	20·1	11·2	19·1	20·4	20·6	16·6
<i>P. vivax</i> ...	10·3	10·8	9·8	6·4	6·8	3·6	3·6	1·8	1·9	3·2	2·6	3·7
<i>P. malarie</i> ...	3·1	2·7	2·1	3·1	2·4	0·9	4·5	9·0	7·3	3·2	3·4	2·8
Mixed infections	1·2	1·3	0·7	1·2	0·7	0·1	3·8	4·6	1·9	1·7	2·3	1·1
Not identified	5·4	5·9	3·5	2·4	2·1	4·0	6·4	8·6	4·1	1·6	0·3	6·2
Total per cent infected	32·7	32·8	34·6	33·2	38·6	34·1	38·4	35·2	34·3	30·1	29·2	30·4
Total cases	850	829	895	870	1,007	890	821	754	722	681	611	773
Cases infected	278	272	310	289	389	304	316	266	248	205	179	235

TABLE II.

	<i>P. falciparum.</i>	<i>P. vivax.</i>	<i>P. malarie.</i>	Mixed infections.	Not identified.	Spirochæta.	Negative.	Total.
European	134	30	22	5	115	4	809	1,119
Asiatic	4	4	0	1	3	0	56	68
Native	1,689	514	329	144	297	50	5,493	8,516
Total Cases	1,827	548	351	150	415	54	6,358	9,703
Per cent infected	18·8	5·6	3·6	1·5	4·2	0·55	—	—

Fæces Examinations.—Of the 4,693 stools of Africans examined by Barber's flotation method for ova, 3,275 (69·78%) contained ova. Ankylostomes were found in 2,689 (57·29%), Ascaris in 739 (5·09%), Tænia sp. in 272 (5·79%), Trichuris in 753 (16·04%), *S. mansoni* was found seven times. As a number of stools were re-examined after the patients had received treatment, the infection rate shewn is probably lower than would follow on first examinations only. Of the 518 stools examined for protozoa, 28 (5·4%) contained *E. histolytica* or its cysts, and flagellates were found in 39 cases (7·52%).



Of the 83 European stools examined for protozoa, *E. histolytica* or its cysts were found on three occasions and flagellates once only.

The eight stools of Asiatics were negative.

*Miscellaneous Examinations.*—It has been found more convenient to group all other examinations under this heading, such as:—Sputa for T.B. swabs, smears for organisms, cerebro-spinal fluids, exudates, etc.

Specimens were received from 193 cases for histological examinations:—

49 specimens of tumour tissue were diagnosed as:—

#### MALIGNANT.

##### *Squamous cell carcinoma* :—

Penis ...	...	...	3
Tongue ...	...	...	1
Skin ...	...	...	3
Cervix uteri ...	...	...	2

##### *Adeno-carcinoma* :—

Rectum ...	...	...	1
Bile ducts ...	...	...	1
Prostate ...	...	...	1
Pancreas ...	...	...	1
Invading mandible ...	...	...	1
Scirrhus breast ...	...	...	1

##### *Mixed cell sarcoma* :—

Gland ...	...	...	1
-----------	-----	-----	---

##### *Endothelioma* :—

Soft palate ...	...	...	1
-----------------	-----	-----	---

##### *Spindle cell sarcoma* :—

Tibia ...	...	...	1
Jaw ...	...	...	1
Gut ...	...	...	1
Pelvis ...	...	...	1
Unknown ...	...	...	1
Maxilla ...	...	...	1
Lip ...	...	...	1

##### *Round cell sarcoma* :—

Testis ...	...	...	1
Jaw ...	...	...	1
Femur ...	...	...	1

##### *Melanoma* :—

Thigh ...	...	...	1
Foot ...	...	...	1

##### *Lymphosarcoma* :—

Gland ...	...	...	1
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#### BENIGN.

##### *Adenoma* :—

Thyroid ...	...	...	2
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##### *Cyst-Adenoma* :—

Ovary ...	...	...	1
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##### *Lipoma* :—

Abdominal wall ...	...	...	2
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##### *Fibroma* :—

Calf muscles ...	...	...	1
Salivary gland ...	...	...	1
Clavicle ...	...	...	1
Hand ...	...	...	1

##### *Chondroma* :—

Metacarpal bone ...	...	...	1
---------------------	-----	-----	---

##### *Fibro-myoma* :—

Uterus ...	...	...	1
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##### *Papilloma* :—

Conjunctiva ...	...	...	2
Penis ...	...	...	1
Skin ...	...	...	2

##### *Branchial cyst*

...	...	...	1
-----	-----	-----	---

##### *Supra pubic cyst*

...	...	...	1
-----	-----	-----	---

##### *Mixed tumour parotid*

...	...	...	1
-----	-----	-----	---

A papilloma of the rectum was found to contain ova of *Schistosoma mansoni*.

A subcutaneous nodule excised from the arm consisted of hard fibrous tissue and contained a degenerated worm. Several inflammatory nodules from the conjunctivæ of various natives have been examined. The condition which is apparently of filarial origin is being investigated in England.

M. TURTON,

Senior Bacteriologist.

## APPENDICES.

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**APPENDIX I.****Annual Report on the Uganda Medical School, Mulago,**

BY DR. H. B. OWEN, O.B.E., D.S.O., PRINCIPAL, UGANDA MEDICAL SCHOOL.

## A. INTRODUCTION.

## B. REPORT ON THE UGANDA MEDICAL SCHOOL.

- (1) Remarks on the training of Medical Assistants.
- (2) The year's work.

## C. REMARKS ON THE TRAINING OF MEDICAL ATTENDANTS.

## A. INTRODUCTION.

The Native medical staff may be divided into two groups, and be given the following designations:—

- (a) Medical Assistants.
- (b) Medical Attendants.

A Medical Assistant is taught on the same lines as a doctor, though the standard is of course much lower than that obtaining in Europe. A Medical Attendant is primarily a nurse and trained as such.

## B. REPORT ON THE UGANDA MEDICAL SCHOOL.

## (1) REMARKS ON THE TRAINING OF MEDICAL ASSISTANTS.

1. Previous reports have described in detail the scheme of training and all matters connected with it. It will suffice therefore to recapitulate briefly and add a few remarks on future plans for improvement.

2. The first two years are spent at Makerere College in the study of chemistry, physics, botany and zoology. The study of English and mathematics is also continued during this time. The remainder of the curriculum is taken at the Medical School.

In the third year anatomy, physiology and pharmacy are the subjects of instruction. Pharmacy is continued and medicine and surgery and their dependent and allied subjects are taught in the fourth year.

In the fifth and final year, medicine, surgery and the allied subjects are completed, and midwifery and diseases of women included also.



3. We are well aware of certain defects in our system of training. We intend to curtail the period spent over pharmacy and to put pharmacology and therapeutics into the period so saved. The main difficulty has been and is to find time to compose lecture notes which are reasonably brief but comprise essentials and suit the requirements of Uganda practice. Brevity is particularly essential because the curriculum is already very full.

4. The teaching of venereal diseases has up to now been defective. The principal reason for this has been that until the opening of the new out-patient clinic there was no special venereal department and the general organisation for dealing with these diseases was very imperfect. This department is now well designed, organised, equipped and staffed, and plans are in hand for effective teaching.

Venereal diseases are in the forefront of medical practice in Uganda, and every medical assistant requires to be expert in this branch.

As explained above students spend but two years in clinical work and their time is so fully occupied with fundamental subjects that it is impossible to crowd more into the time. It will therefore be necessary to make the subject a post-graduate one and this will not be difficult as graduates spend six months at Mulago Hospital after qualification.

5. Medical Assistants are now licensed and have the usual legal responsibilities of registered practitioners. They must, therefore, have some knowledge of medico-legal matters. Lecture notes dealing briefly with the subject, especially from local stand-point, have been composed. Here again the subject will be taught immediately after qualification.

6. There will be initiated in the coming year a short course, also post-graduate, in storekeeping and the many forms of clerical procedure connected with Government work.

## (2) THE YEAR'S WORK.

1. Fourteen students attended the school, six in the third year, three in the fourth year, and five in the fifth and final year.

Of the third year, four satisfied the examiners in anatomy and physiology, and two were referred to repeat the courses in these subjects. All three-year students passed in pathology, bacteriology and parasitology, and in pharmacy. Of the fifth-year students all passed the final examination in medicine, surgery and midwifery except one who failed in clinical medicine and surgery and was referred to repeat the examination in these subjects.

*Plans of Studies.*—The time-table appended shows this in detail. There are three terms, each of three months duration. Third-year students spend their vacations at home; but fourth and fifth-year students spend the vacations in clinical work except for fourteen days annual holiday.

## 2. MEDICAL SCHOOL STAFF :—

*Principal.*—H. B. Owen, D.S.O., M.B., B.Ch. (Camb.), D.T.M. & H. (Cantab.), D.O.M.S.

*Medicine.*—A. McK. Fleming, M.C., M.R.C.S. (Eng.), L.R.C.P. (Lond.), M.B., B.S. (Lond.), D.T.M. & H. (Lond.).

*Surgery.*—Miss M. Holliday, L., L.M., R.C.P. (Irel.), L., L.M., R.C.S. (Irel.), F.R.C.S. (Irel.), D.T.M. & H. (London), L.M. Rotunda.

*Midwifery and Diseases of Women.*—J. P. Mitchell, O.B.E., M.D., Ch.B. (Aberd.).

*Anatomy.*—E. N. Cook, M.B., B.S. (Lond.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.T.M. & H. (London).

*Physiology.*—A. J. Boase, M.R.C.S. (Eng.), L.R.C.P. (London).

*Zoology.*—(At Makerere College) E. N. Cook, M.B., B.S. (Lond.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.T.M. & H. (London).

*Curator of Museum.*—S. G. Laws.

*Pharmacy.*—C. M. Day.

## 3. QUESTIONS SET IN THE EXAMINATIONS.

UGANDA MEDICAL SCHOOL.—INTERMEDIATE EXAMINATION (3RD YEAR).

ANATOMY PAPER.—*December 7th, 1931, 9—12 a.m.*

*Five questions only to be answered.*

1. Give a description of the elbow joint. Confine your answer to describing the bones cartilages, ligaments and synovial membrane.

2. Describe the axillary artery.

3. Give a description of the spleen, including its relationships and blood supply.

4. What muscles produce the following actions :—

Dorsiflexion of the foot.

Pronation of the forearm.

Extension of the hip joint.

Give the origin, insertion and nerve supply of each muscle named.

5. Describe the superior mediastinum.

6. Describe the interpeduncular fossa of the brain and the structures found therein from before backwards.

UGANDA MEDICAL SCHOOL.

TIME-TABLE OF LECTURES.

	THIRD YEAR.				FOURTH YEAR.				FIFTH YEAR.							
	9-30-12		2-3		3-4		8-9		9-11		11-12		2-3		3-4	
	8-30-9-30	Anatomy and Physiology Private Study	Physiology	Pharmacy	Bacteriology, etc.	Clinical work in wards or O.P.	Clinical work in wards or O.P.	Surgery	Medicine	Clinical work	..	Midwifery	Laboratory methods			
Monday	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Tuesday	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Wednesday	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Thursday	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Friday	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Saturday	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	

Times not allotted to lectures, demonstrations or clinical work are available for private study if not otherwise employed.



4. UGANDA MEDICAL SCHOOL.—INTERMEDIATE EXAMINATION (3RD YEAR).  
PHYSIOLOGY PAPER.—*December 6th, 1931, 9—12 a.m.*

*Five questions only to be answered.*

1. (a) Describe the properties of cardiac muscle.  
(b) What is the auriculo-ventricular bundle and what is its function?
2. (a) Explain the terms "upper motor neurone" and "lower motor neurone."  
(b) What effects would follow hemisection of the spinal cord in the mid-thoracic region?
3. (a) What are the properties and action of gastric juice and pancreatic juice?  
(b) What do you understand by a ferment?
4. (a) Describe the histological appearance of the kidney.  
(b) Give an account of the composition and formation of urine.
5. (a) What is meant by tissue respiration?  
(b) In what manner is respiration affected by the reaction of the blood?
6. Give a short account of the temperature of the body and the means by which it is regulated.

5. UGANDA MEDICAL SCHOOL.—FINAL EXAMINATION, PART 1 (4TH YEAR).  
BACTERIOLOGY, PATHOLOGY AND PARASITOLOGY.—*December 15th, 1931, 9—12 a.m.*

*Answer five questions only.*

1. Describe the macroscopic appearance of the various organs in the post-mortem examination of a case which has died of heart failure following mitral stenosis.
2. Describe the pathological changes, both macroscopic and microscopic, which occur in the lung in the course of a case of lobar pneumonia.
3. Give an account of the life cycle of plasmodium falciparum.
4. What is the medical importance of :—  
(a) House flies.  
(b) Fleas.  
(c) Ticks.

Describe any methods of control which may be adopted to deal with them.

5. Describe the life cycle of tænia saginata and explain the steps which should be taken to prevent infection of man.
6. Discuss the lesions which may be produced by the tubercle bacillus in the lung.  
Describe the method you would adopt for identifying the organism in a specimen of sputum.

6. UGANDA MEDICAL SCHOOL.—FINAL EXAMINATION, PART 1 (4TH YEAR).  
PHARMACY PAPER.—*December 14th, 1931, 9—11 a.m.*

1. Translate the following terms into English :—

Hora somni sumendum.	Ter in die.
Omni hora.	More dietu.
Q.S. (Quantum sufficient).	P. Aeq. (partes aequales).
P.R.N. (pro re nata).	P.C. post cibos).

2. To one imperial pint of water, how much hydrarg. perchlor. will be required to make a 1/50% solution?
3. A patient is ordered  $\frac{1}{4}$  grain of morphia at once. How would you obtain this from a 2% solution in the ward poison cupboard?
4. What is a tincture? Name those with a dose of less than 15 minims.
5. How would you label a mixture containing a dangerous alkaloid like strychnine. State reason.

6. Would you compound the following mixture, if not, why?

Amon. carb ...	gr. III	Aqua chloroform ...	ad.
Pot. iodid ...	gr. V	Fiat misc ...	Mitte
Spt. ætheris nit ...	m xx	Opt. t.d.s.	
Syp. scillæ ...	m xx		

7. State all you know about Eusol (U. P.) and how would you make 4 pints?
8. What are the chief incompatibilities of :—

(a) Acids generally	(e) Pot. permang.
(b) Sod. bicarb.	(f) Tannin.
(c) Iodum	(g) Vegetable infusions.
(d) Iron	

9. How are opiates accounted for?
10. How would you treat a case of alcoholic poisoning? Give the general line of treatment.
11. In cases of poisoning, in what circumstances should the stomach tube be not used? Give the reason.
12. Name the powders containing opium, and state the strength of opium in each.

## 7. UGANDA MEDICAL SCHOOL.—FINAL EXAMINATION, PART 2 (5TH YEAR).

MEDICINE PAPER.—*December 14th, 1931, 9—12 a.m.**Answer five questions only.*

1. Describe the naked eye changes seen in the heart in chronic endocarditis. What physical signs may you find in a patient suffering from chronic endocarditis?

2. What is the cause of relapsing fever of the African type? How is it carried? Describe the complications which may follow this disease.

3. Describe the types of jaundice.

What are the symptoms and more common complications in a case of gall-stones?

4. How would you distinguish between a case of acute lobar pneumonia and one of acute phthisis?

5. How would you treat a case of failing heart due to chronic interstitial nephritis?

6. Some cases with symptoms suggestive of beri beri have occurred in a small gaol of which you are in charge. How would you confirm the diagnosis and endeavour to ascertain the cause and prevent the recurrence of the complaint?

## 8. UGANDA MEDICAL SCHOOL.—FINAL EXAMINATION, PART 2 (5TH YEAR).

SURGERY PAPER.—*December 14th, 1931, 2—5 p.m.**Answer five questions only.*

1. What physical signs and symptoms would you expect to find in a case of simple fracture of the lower end of the humerus which involves the elbow joint? Give a detailed account of how you would treat the case.

2. How would you distinguish between an hydrocele, an inguinal hernia and a femoral hernia?

3. What is the cause of erysipelas? State what is the prognosis in (a) a child, (b) a healthy adult, (c) a person addicted to alcohol. How would you treat a case of this disease in an adult?

4. What pathological changes would you find post-mortem in a child who had died of tuberculous peritonitis?

5. What are the symptoms and physical signs of acute purulent otitis media? What complications may occur in this disease?

6. Give an account of the more common complications of gonorrhœa in the male and their treatment.

## 9. UGANDA MEDICAL SCHOOL.—FINAL EXAMINATION, PART 2 (5TH YEAR).

MIDWIFERY AND GYNÆCOLOGY PAPER.

*Answer five questions only.*

1. A baby is born healthy but after two weeks fails to thrive and becomes weak and thin. What are the causes that may bring this about? State how you would treat one of them.

2. What are the conditions which may cause breech presentation? How would you diagnose it and under what conditions would you contemplate interfering with this presentation?

3. Give the causes which may bring on abortion. What varieties of abortion do you know? State briefly the treatment of two of these.

4. What conditions may give rise to post partum hæmorrhage? How would you find out the cause and give the treatment of one of the conditions?

5. Give the symptoms and physical signs of ophthalmia neonatorum. What sequelæ may follow? How would you prevent this disease?

6. Give a short account of the early development of the human ovum after fertilisation up to the stage of the formation of the trophoblast. Describe the development of the placenta. Enumerate the places in which fertilisation may occur and state what conditions may result from the development of the fertilised ovum in abnormal places. Illustrate your answer as far as possible by diagrams.



**10. ANATOMY.**—*Answer to question 5. (Examination answers are quoted as written by the African students.)*

**THE SUPERIOR MEDIASTINUM.**

This is the upper part of the Mediastinal cavity, *i.e.*, the cavity between the pleural cavities in the thorax.

**BOUNDARIES.**

*Anteriorly*—It is bounded by the sternum—*i.e.*, the manubrium portion of the sternum.

*Posteriorly*—The boundary is formed by the vertebral column and by the posterior thoracic wall.

*Below*—The Pericardium bounds the cavity in question.

*Above*—The superior boundary is represented by an imaginary oblique line from the sternal upper end to the vertebral column forming the apex of the thorax.

**CONTENTS**—This cavity lodges the very important structures, namely :—

The arch of the Aorta, The left common carotid art. The Innominate artery and the left subclavian artery. The right and left Innominate veins; the thoracic Duct, the phrenic nerves and the vagus. The trachea and the Oesophagus are all found in the superior Mediastinum. The remains of the Thymus gland in adults and the same gland is actually in the cavity in young people. Lymphatics and fat also connective tissue are present. A chain of ganglia of the sympathetic system is found there on either side of the vertebral column.

**11. PHYSIOLOGY.**—*Answer to question 1.*

**1. PROPERTIES OF A CARDIAC MUSCLE.**

A Cardiac muscle is grouped together with plain muscles, *i.e.*, muscles which are non-striated and whose action is not under the will of the person. The fibres are short and have nuclei and they branch joining one another. They have no sarcolemma, but there is a sheath. They have fine lines running longitudinally and some other transverse lines.

A Cardiac muscle, although it is involuntary, yet it is excitable by stimulation. It has the power of contracting shortening itself and then relax. All cardiac muscles, like other plain muscles, contract rhythmically and in a peristaltic way, *i.e.*, the contraction goes in one direction. The muscle cannot be tetanised due to the long refractory period, *i.e.*, it is refractile as long as it contracts and relax. The cardiac muscle and all plain muscles contract very slowly. The muscle has the property of remain for a certain time contracted like all involuntary muscles the condition known as muscle tone.

**12. PATHOLOGY, BACTERIOLOGY AND PARASITOLOGY.**—*Answer to question 6.*

Following the Tubercle bacillus lodging in the tissue there is formation of tubercle (nodule) of minute size which may vary from a pin's head to the size of the pea due to amalgamation of two or more such tubercles according to the number of the tubercle bacilli invading the part. Many other changes follows tubercle formation. Microscopically the tubercle consists of endothelial cells surrounding one or more bacilli. Next to this there comes a zone of lymphocytes coming for defence of the part. Among the endothelial cells there are usually other cells developing with many nuclei (giant-cells). Also in the centre of the tubercle death of different cells may occur to a less or great extent with formation of cheesy like material (caseiform) with formation of an abscess. In some cases fibrous tissue formation around shut off from spreading; but in others caseiform goes on spreading and destroying blood vessels and as a result hæmoptysis takes place, and expectoration of blood stained sputum. And in that case fibrous tissue formation cannot take place quickly enough to wall off the rapidly spreading infection and so cavitation takes place.

Caseation and marked abscess formation encouraged by invasion of affected part or parts by pyogenic organisms during which time temperature recorded by the chart is seen swinging.

Cavitation in tuberculosis usually take place at the apices where also the bacilli are often apt to lodge. Cavitation have ragged or shaggy outline. But the condition may spread to whole lung and there cavitation may occur, and fibrosis may supervene and cause shrinkage of affected part or whole lung where there may be displacement of heart to the affected lung.

**ON ORDER TO IDENTIFY THE ORGANISM IN A SPECIMEN OF SPUTUM.**

I make a smear on the slide and stain such a smear by Zeil Neelson's method and look microscopically for the slender, acid fast organisms, which I should expect if present to be scattered about in the field of the microscope.

**13. MEDICINE.**—*Answer to question 7.*

There are three pathological types of jaundice and are as follows :—

(1) Obstructive jaundice caused by blocking the duct that the bile cannot flow along the gut. The causes being inflammation of the duct, stones in the duct, worms in the duct, tumours of the duct blocking the lumen, pressure from outside.

In all these conditions the bile is damned back into the liver tissues and then into the blood so that there is colouration of the skin or mucous membrane due to pigment bilirubin. The stool in such cases is pale white in colour; so in all cases of jaundice stool should be first inspected in order to exclude obstructive jaundice.



(2) Infective or toxic jaundice which occur due to toxin liberated in the blood stream and liver cells being damaged. The cause may be a bacterial or protozoal infections as in pneumonia, malaria and typhoid fever.

It is also brought about by spirochæte as in syphilis, relapsing fever.

Chloroform and carbon tetrachloride may produce this type of jaundice due to damage of liver cells.

(3) Hæmolytic jaundice. This type occurs due to great destruction of red blood corpuscles in such a large number that there is hæmoglobin produced and liver cells cannot cope with so that it is set free in the system and causes pigmentation of tissues.

The common cause being black water and pernicious anæmia. In the latter it is said to occur to hæmolytic toxin liberated which destroys the red blood corpuscles in large number and causes free iron in the liver and spleen and then pigmentation in the tissues.

The symptoms of gall stone are those of acute abdominal pain situated at the gall bladder area. The pain is transient due to stones trying to pass down the duct, and during the attack the patient suffers from shock. Pulse is rapid with clammy sweating and after a day or two there is jaundice; during the attack the process is known as the biliary colic.

The common complications are —

1. Obstructive jaundice.
2. The stones may burst into the peritoneal cavity leads to peritonitis of the secondary type.
3. The stones may be passed down the gut and cause ulceration of the intestines with hæmorrhage.

#### 14. SURGERY.—*Answer to question 8.*

The patient has acute pain over the ear, vomiting; high fever, steady rising pulse and has deafness in the ear affected. On examination there is tenderness over the ear, discharge from the meatus and the membrane protruding or bursted on examination with the auriscope.

The pinna may be pushed forward and also tender.

The complications which follow this disease may be extra cranial, cranial and intra cranial.

Extra cranial complications are :—

- (1) Eczema of the pina due to chronic discharge.
- (2) Furuncles which often form and hæmatoma.

Cranial complications are :—

- (1) Deafness by involvement of the internal ear.
- (2) Facial paralysis.
- (3) Nystagmus; tending to fall on affected side due to involvement of the semi-circular canals.
- (4) Sinus thrombosis.
- (5) Necrosis of the ossicles.
- (6) Mastoiditis which is characterised by pushing forward of the pinna, tenderness over the mastoid process on tapping and constitutional signs of high fever, etc.
- (7) Meningitis is a common complication.

Intra cranial complication are :—

- (1) Cerebral abscess which may be extra-dural, dural or in the brain.
- (2) Cerebellar abscess is also a common occurrence in this condition.

#### 15. MIDWIFERY AND GYNÆCÔLOGY.—*Answer to question 9.*

CONDITIONS CAUSING BREECH PRESENTATION.

Anything which prevents the head from fixing into pelvis :—

1. PLACENTA PRAEVIA.—The placenta is in the lower uterine segment and prevents the head from fixing.
2. HYDROCEPHALIC HEAD.—The large head does not go into the pelvis.
3. CONTRACTED PELVIS.
4. HYDRAMNIOS.—The excess or liquor amnii causes abnormal mobility of the foetus so that the head does not fix.
5. SMALL BABY.—The head is small to fix into the pelvis.
6. TWINS.
7. LARGE FLABBY UTERUS.

DIAGNOSIS.

INSPECTION—Abdomen is longitudinal.

FUNDAL PALPATION—You feel the head which by ballotting moves freely while the back does not move with it.



UMBILICAL PALPATION--You feel the limbs or the back is felt.

PAWLIK'S GRIP--The occipital and frontal prominences are absent and you do not feel the head.

DEEP PELVIC GRIP PALPATION.--You discover that the head is not in the pelvis. If it is due to contracted pelvis and if the contraction of the pelvis is great cesarian section is the treatment. In placenta prævia and hydrocephalic head and prolapse of the cord if there is no disproportion do not interfere, because in placenta prævia delivery is by breech is preferred.

In Hydrocephalus the aftercoming head moulds and becomes longitudinal.

In Prolapse of the cord the breech does not press on the cord as the head.

In a Primipara when there is no disproportion turn the breech ; delivery is difficult.

In a Multipara if version is easy turn it into a vertex if difficult leave alone.

You would not do a version before the 36th week because it recurs.

Dr. R. Y. Stones, M.R.C.S., L.R.C.P., M.B., B.S., D.P.H., F.R.C.S., M.D., M.R.C.P., of the Church Missionary Society Hospital, Mengo, Kampala, very kindly undertook the duty of examiner at the final examination, and his assistance has been greatly appreciated.

Concerning the examination Dr. Stones writes as follows:--

"Comparing the results of this final examination with that of 1928 a uniform improvement in the standard of medical education is found.

"A stiffer examination was set to test the knowledge of the students more thoroughly and it was proposed, if necessary, to accord marks more easily than in the previous examination. This was not found to be necessary as the students met the higher standard of questions asked successfully.

"The knowledge shown was generally satisfactory though the answers given were again rather stereotyped. Z. Musoke and K. Semanda did well in both the written and the oral examinations and might be considered to have achieved honours standard.

"S. Musoke failed in the oral examinations in medicine and surgery.

"I should like to add my appreciation of the privilege accorded me of again examining these students--the pioneer products of higher native medical education in this country."

#### C. REMARKS ON THE TRAINING OF MEDICAL ATTENDANTS.

(a) Male.

(b) Female.

1. (a) *Male*.--An account of the system of training was published in last year's report and it will suffice to give a brief outline of the system and to add a few remarks on the present position and future plans.

2. Attendants are primarily nurses, but as there is a demand for attendants capable of taking charge of country dispensaries and recognising and treating the common diseases of the country an attempt is made to go rather beyond the usual nursing training.

3. An attendant stays at Mulago for three years doing ordinary routine duties and passing through the various departments to gain all round experience.

4. Classes are held in nursing methods, simple ideas of the structure and function of the body are taught and finally something of the recognition of the common diseases and their treatment by standard methods.

5. 73 attendants passed through the classes, 40 juniors and 33 seniors. Owing to financial depression it has been necessary to restrict recruiting so that next year we shall deal with greatly reduced numbers.

6. While the results are good on the whole there is room for much improvement. Some of the recruits from outlying districts are indifferently educated and it has been difficult to find a common language as a medium of instruction. We have used both Luganda and Swahili, but few if any have sufficient knowledge of the latter language to follow the lectures and demonstrations and to express themselves at examinations.

Some of the Acholi recruits have shown a better knowledge of English than Swahili, and we are beginning to think that the time is ripe, or nearly so, to make the attempt to use this language. The standard of education is rising and educated boys are finding it difficult to find employment owing to the financial situation. But for this situation conditions would have probably been favourable for an attempt to introduce English in 1932, and even now it is possible that we shall feel our way towards this goal.

(b) *Female Attendants*.--It is satisfactory to record that some progress has been made. A better class of girl, both from the stand-point of character and education, has been recruited and dismissals and resignations have declined. The standard of training is appreciably higher though certainly not up to the male level; this one cannot expect as long as the general standard of education of girls is below that of boys.

H. B. OWEN,

*Principal, Uganda Medical School.*



**Mulago Hospital Annual Report, 1931.****I. INTRODUCTION.**

1. Mulago is the site of an African General Hospital and the Uganda Medical School. Eighteen subsidiary units are under the control and supervision of the hospital and its staff.

**II. MULAGO HOSPITAL.**

2. *Out-patients.*—There has been a small decline in the numbers this year. New cases numbered 15,717, as compared with 15,929 in 1930. The decline was evident on the male side only and is possibly due to diminished immigration. On the female side numbers increased from 5,296 to 5,441. The new out-patient department was completed during the year. It provides really adequate accommodation for the practice of all branches of medicine and has been the means of improving the quality of our work, diagnostic, curative and educational.

3. *In-patients.*—The numbers treated have increased considerably. Males numbered 4,143, and females 1,631, the corresponding figures for 1930 being 3,946 and 1,514. The accommodation available, excluding the isolation hospital, is 174 beds for men, 76 beds for women and eight cots for babies. The male accommodation has been taxed beyond capacity and many of the less serious cases are always obliged to sleep on the floor. So full has been the hospital that it was found quite impossible to evacuate any ward for the annual process of fumigation, painting and distempering. Nevertheless, owing to the efforts of the ward sisters, the hospital is free from the vermin which used to infest it at one time. The new isolation hospital was completed and equipped during the year. It provides accommodation for Asiatics and Africans. It is satisfactory to record that it is practically never in operation.

4. *Deaths.*—Deaths have decreased from 407 in 1930 to 376. The pneumonias, as usual, take first place, though there has been a satisfactory decline from 100 in 1930 to 69 in 1931. Pulmonary tuberculosis takes second place with 25 deaths compared with 22 in 1930.

5. *Post-Mortem Examinations.*—181 examinations were made during the year compared with 171 in the previous year. The great majority have been performed by the officer principally concerned with medical work, Dr. A. McK. Fleming.

6. *Laboratory.*—The main clinical laboratory of the Protectorate was transferred from Entebbe to Mulago during the year. Though quite a separate and distinct unit from the hospital, its close proximity to a large general hospital drawing patients from the whole Protectorate and even from beyond its borders, is, by virtue of close contact between clinician and laboratory worker, certain to lead to progress.

7. *Water Supply.*—The hospital is adequately supplied by water from the Kampala water supply.

8. *Lighting.*—The hospital is still dependent upon oil lamps. The laboratory, however, is provided with generating machinery, which it is hoped will produce sufficient surplus power to provide illumination for the theatre and most of the wards.

9. *Conservancy.*—The pits described in previous reports have proved to be impracticable for prolonged continuous use. It is proposed to convert one of the old rain-water storage tanks, now no longer necessary, into a septic tank.

10. *Hospital Grounds.*—The hospital precincts are under short grass and forest and are reasonably well-kept. A considerable area of new ground was acquired for the isolation hospital and future developments. A football ground for the use of the native staff has been constructed at trifling cost, and has been the means of providing recreation and exercise in place of loafing and getting into mischief.

**III. STAFF.**

11. *European Medical Staff.*—The establishment is one Medical Superintendent and six Medical Officers. Owing to financial stringency it is probable that the medical officers will be reduced to five in the ensuing year. With the aid of African Assistants it is hoped that this number will suffice to maintain medical education and medical services within the hospital and its numerous subsidiary units at the present level.

12. *European Nursing Staff.*—The establishment is one Matron, one Lady Steward for hospital housekeeping duties, and four Nursing Sisters. The Matron and Sisters have shown enthusiasm and devotion especially in training native staff and their efforts have resulted in maintaining a standard of nursing and hospital management which is certainly high for an African hospital.

13. *European Clerical and Technical Staff.*—The establishment consists of a Superintendent and an Assistant Superintendent, who is also a dispenser.

14. *Native Medical Staff.*—A comparison of the male section of Table VI with that of the previous year shows that recruitments and consequently postings outwards have declined greatly. The financial position has necessitated these limitations. Dismissals and resignations are now almost negligible. This is due to contentment with conditions of employment and to the stimulus which training and the recognition of efficiency provides.



## IV. SUBSIDIARY UNITS.

15. Nine country dispensaries are controlled by Mulago. Six are within easy reach by motor car and are visited weekly. Two are situated on the islands of Lake Victoria and one in the northern part of Buganda. These are too inaccessible for close supervision. Dispensaries have also been maintained at Kampala and Luzira prisons, the Police lines, Kololo, Port Bell and the Water-Works labour camps, and at Makerere for Makerere College, the Technical School, Normal and Intermediate Schools. A Sub-Assistant Surgeon has been in charge of prisons, labour camps and police lines under the supervision of a medical officer. Towards the end of the year, however, he was replaced by a Senior African Medical Assistant. The subsidiary units treated 47,474 new cases with 211,807 attendances, compared with 40,498 new cases and 184,378 attendances in the previous year. The island dispensaries are not included in these figures.

## V. ANTI-VENEREAL WORK.

16. The statistical account of this work is given in Table VII, though a separate report is published of the work of the male venereal department at Mulago Hospital.

17. New cases of venereal disease numbered 14,615 with 209,033 attendances, compared with the corresponding figures of 10,461 and 120,723 respectively for 1930. There were 12,881 new cases of syphilis against 9,024 in the previous year.

18. At subsidiary units the ratio of attendances to new cases of syphilis was 12·8 to 1 compared with 8·7 to 1 in the previous year. While the position has improved in this respect it is still unsatisfactory and indicates that abatement of symptoms is the principal criterion of cure in the native mind. The position at Mulago Hospital is stated in the report by the officer in charge of the venereal department.

19. The venereal department was opened when the new out-patient clinic was completed in August, Dr. A. J. Boase being appointed to take charge. With energy and enthusiasm he has got the department operating in a very competent manner, but to persuade the patients of the need of full and sufficient treatment is not an easy matter.

## VI. PRISONS.

## STATISTICAL INFORMATION.

## LUZIRA PRISON.—

1.	Number that can be accommodated	...	...	...	692
2.	Daily average in prison	...	...	...	654
3.	Total hospital admissions	...	...	...	855
4.	Daily average on sick list (includes patients in hospital, off duties, light duties and chronic sick)	...	...	...	20
5.	Number of deaths	...	...	...	9
6.	Accommodation—				

*Permanent Buildings—*

Association wards including workshop being used as wards temporarily	...	...	...	...	12
Single cells including European and Indian	...	...	...	...	178
Segregation cells	...	...	...	...	5
Punishment cells	...	...	...	...	6
Comdemned cells	...	...	...	...	8
Hospital wards	...	...	...	...	2
Hospital cells	...	...	...	...	13

*Temporary Buildings—*

Juvenile reformatory association wards	...	...	...	6
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## KAMPALA PRISON.—

1.	Number that can be accommodated	...	...	...	322
2.	Daily average in prison	...	...	...	305
3.	Total hospital admissions	...	...	...	534
4.	Daily average on sick list	...	...	...	12
5.	Number of deaths	...	...	...	5
6.	Accommodation—				
	Association wards	...	...	...	9
	Cells	...	...	...	17

20. Dr. J. P. Mitchell has been in medical charge for the greater part of the year. Close supervision and vigilance and generally improved conditions have resulted in a remarkable fall in the death rate at Kampala and Luzira prisons as the following figures show:—

Year.					Death rate per 1000.
1931	...	...	...	...	14·98
1930	...	...	...	...	30·62
1929	...	...	...	...	37·03
1928	...	...	...	...	86·17



## 21. The causes of death were as follows:—

Lobar pneumonia	...	...	...	...	...	4
Phthisis	...	...	...	...	...	2
Bacillary dysentery	...	...	...	...	...	1
Streptococcal pneumonia and pericarditis	...	...	...	...	...	1
Pneumococcal septicæmia	...	...	...	...	...	1
Pneumococcal meningitis and pneumonia secondary to otitis media and						
. mastoiditis	...	...	...	...	...	1
Typhoid fever (perforation)	...	...	...	...	...	1
Senile decay	...	...	...	...	...	1
Cerebral softening and myelitis	...	...	...	...	...	1
Atheroma and coronary obstruction	...	...	...	...	...	1
TOTAL						14

22. But for an outbreak of influenza at the end of the year causing two deaths from lobar pneumonia, the figures would have been still better. It will be noted that the mortality from preventible disease is now reasonably low. It is confidently expected that 1932 will show still further improvement.

23. Towards the end of the year it was decided to post a resident Senior African Medical Assistant to the Central prison at Luzira, a decided advance on the former system of brief daily visits by a Sub-Assistant Surgeon.

## VII. REPORTS OF THE WORK OF SPECIAL DEPARTMENTS.

24. *Medical*.—Dr. A. McK. Fleming has been in charge of major male medical in-patients and has acted in a consultant capacity in the case of female patients.

**REPORT BY DR. A. McK. FLEMING.**

“(1) In dealing with the work done in the male medical wards of Mulago Hospital during 1931, I have nothing of outstanding interest or importance to report.

“(2) I must first make grateful acknowledgment of the assistance I have received from the laboratory staff, not only in the routine examination of blood slides and stools, but also in many special chemical, bacteriological and histological investigations which have been of great help in the diagnosis of difficult cases.

“(3) From the teaching point of view, the variety of cases found in the medical wards could hardly be improved upon. With the exception of heart disease, which is rare though by no means unknown, there can always be found cases showing the classical physical signs for demonstration to the junior students, while the senior students are able to follow the methods of diagnosis and treatment of most of the diseases known to Europe and tropical Africa, and not a few which unfortunately baffle their instructor.

“(4) *Pneumonia*.—I have had 110 cases of lobar pneumonia through the wards, with 27 deaths—a death rate of 24·5% which is an improvement on our last year's figures of 30·6. I have again noticed jaundice, of a toxic type, complicating this disease in 5·5% of our cases.

“(5) *Pulmonary Tuberculosis* is still one of the most hopeless of diseases met with in natives. It is usually of the acute caseating type and rarely comes under observation before there is extensive involvement of at least one lung, if not both. I have had 28 cases through the ward this year, of whom nine died, five were discharged improved, the remainder either worse or not improved. I cannot claim to have arrested a single case.

“(6) There are several reasons for this unsatisfactory state of affairs. Firstly the difficulty of finding beds in a busy and crowded general hospital, for chronic cases who are not acutely ill, and who resent spending the night on the floor to make room for a more serious case. Secondly the reluctance of natives to remain in hospital, or even attend as out-patients, once their immediate symptoms have been relieved. It is this latter consideration which has so far debarred me from attempting treatment by means of artificial pneumothorax, coupled with the impossibility until very recently of securing X-ray control of the collapse. Now that we have a small X-ray plant at the hospital, this latter difficulty is eliminated, but the other remains. In my opinion it is an unprofitable procedure to induce artificial pneumothorax in a patient, without some reasonable certainty of regular observation for at least two years. Such certainty could only be obtained here, in the case of a man in regular Government or private employ within a short radius of Kampala, and I have not yet had a suitable case for this form of treatment in such a patient.

“(7) *Rheumatic Fever*.—Further to the remarks on this subject last year, I have had an undoubted case of acute rheumatic fever in the wards this year.

“(8) He was a well educated Muganda, aged 23, working as a clerk. On admission he gave a history of two weeks fever and sore throat. During the previous four days he had suffered from pains in the joints, first in the right hip, then right knee, then left hip, and on admission in left knee and ankle.

“On examination the left knee and ankle were hot, swollen and very tender—he had septic tonsils, the left being much enlarged. The cardiac apex was in the fifth space, half an inch outside the nipple line, and there was a blowing systolic murmur best heard at the mitral area. Temperature 101·0, pulse 94.



"He was put on full doses of salicylates, and in three days his joint pains had cleared. During the next three months in hospital, we were able to watch a developing mitral stenosis, which had all the classical physical signs when he took his discharge.

"I consider that in this case the diagnosis of rheumatic fever with endocarditis is beyond dispute, and is interesting as occurring in a native of the country, living practically on the equator.

"(9) I have also had four other cases of obvious mitral stenosis through the ward, one of whom remembered "many years ago" a long illness in which he suffered from pains in his joints. Another of these cases came to post-mortem, and was found to have such stenosis of the mitral valve as barely to admit the tip of one finger.

"(10) *Aseptic Meningitis*.—Another interesting case which caused us some perplexity, was finally given this diagnosis, *c.f. Lancet* of July 4, 1931:—The patient was an adult native of Ankole, who was admitted with all the physical signs of meningitis, but with a normal temperature. The cerebro-spinal fluid was under slight pressure, cloudy in appearance, the cell content being mostly lymphocytic, a few polymorphs, but no organisms seen. There were no physical signs of other disease; S.T.M. parasites in the blood, and ankylostome ova in the stools. A week later he was still afebrile—neck still stiff, hiccough troublesome, C.S.F. contained 1,900 cells p.c.m.m. mostly monocytic, no organisms. Two days later 1 c.c. of the C.S.F. was injected into a guinea-pig which remained perfectly healthy for two months after. A week later still the C.S.F. contained 540 cells p.c.m.m. total leucocyte count was 7,200, with a relative lymphocytosis of 46%, and patient complained of slight headache, but there were no abnormal physical signs.

"He was discharged four weeks after admission with no symptoms whatever.

"(11) *Diseases of the Nervous System*.—As the most interesting cases I have had under this head appear in the classified list of diseases under "Others" it might be worth mentioning a few of them, in order to emphasize that Central African natives are not immune from some of these comparatively rare and etiologically mysterious nervous diseases, which are usually more frequently heard of in European than in African practice.

"(12) I had an interesting case of progressive muscular atrophy of mixed bulbar and spinal type. The patient was a native aged 46, ex-sergeant of the King's African Rifles, who showed atrophy and weakness of the muscles of the upper arms and hands of approximately 18 months' duration, though his history was vague. He said that the weakness started in the upper arms and had gradually affected the hands. His tongue was atrophied and rugose, and there was very definite weakness of the orbicularis oris and a nasal character to his speech. I also had an early case of syringo-myelia, with weakness of the right hand and dulling of sensation to temperature and pain over the right hand and arm and right side of trunk.

"(13) I also had a case of acute anterior poliomyelitis of mixed spinal and bulbar type in a youth aged 17 who gave a history of sudden onset of paralysis of the right leg two weeks previously. He was indefinite about any constitutional symptoms at the time of onset of the paralysis. On examination he had a typical flaccid paralysis of the right leg, with considerable muscular wasting, and in addition had evidence of involvement of the seventh cranial nerve on the right side, and of the sixth cranial on the left. On discharge four weeks later, he was regaining power in his leg, the involvement of the seventh nerve had entirely cleared up, but the sixth was unchanged.

"(14) Finally, I have seen three cases of fairly typical post-encephalitic Parkinsonism, giving histories of 3, 10 and 16 years' duration respectively, but I was unable to obtain any history of the original illness. The ghostly influence of evil-minded relatives, since deceased, was to the patients, an adequate explanation of their disabilities."

25. *Surgical*.—The major surgical work is normally shared by two officers, Miss M. Holliday, F.R.C.S.I., and Mr. A. H. Mowat, F.R.C.S. (Edin.), the former in charge of female patients and the latter in charge of males. Miss Holliday was on leave from May to December during which period Mr. Mowat had the surgical care of patients of both sexes. Mr. Mowat also is responsible for ear, nose and throat work.

26. Reference to Table IV shows that 1,447 operations were performed during the year compared with 1,425 in 1930. The operative work seems destined to increase year by year, though saturation point must be near, in spite of the handicap of imperfect theatre accommodation and very inadequate lighting.

27. *Venereal*.—On the completion of the new out-patient clinic, Dr. A. J. Boase took charge of all male out-patient venereal work though female patients continued to be under the management of the officer in charge of the women's and children's department. Dr. Boase has been also responsible for all in-patient work, both male and female.

#### ABSTRACT OF REPORT BY DR. A. J. BOASE.

"(1) *Staff*.—Throughout the year the V.D. wards have been under my charge, and since the opening of the new out-patient clinic I have also had sole charge of the male out-patient department (V.D.). Before that event (August) I had made an attempt to hold separate V.D. clinics in the old buildings on three days in the week. This venture was as successful as could be expected from the unsatisfactory conditions obtaining in the old clinic. Patients appreciated it and it served the purpose of organising the staff and so enabling an immediate start to be made in the new building. Hitherto lack of continuity of supervision by a medical officer was the chief factor militating against efficient treatment of venereal disease. A qualified African Assistant is appointed to the V.D. department and does duty for an indefinite period of months.



"(2) *Chancroid, etc.*—Chancroid is exceedingly common in this country and is the direct cause of much invaliding. 116 cases of chancroid were admitted to the wards, while 172 were treated in the out-patient department. The incidence is really much greater because if a case presented either syphilis or gonorrhœa in addition to chancroid no record of the latter disease is made for statistical purposes. Inguinal adenitis, without a visible initial lesion, referred to as "climatic bubo," "poroadenitis" or "inguinal lymphogranuloma" is very common. These cases do very well on pyrotherapy. For this purpose I have used T.A.B. vaccine given intravenously in doses of one-tenth of a c.c. I have given over 200 doses to some 100 patients with no untoward results beyond an induced temperature of 106°F."

28. *Ante-Natal and Maternity.*—This work is a part of the duties of the officer in charge of the women and children's section, and is normally performed by Miss M. Holliday, F.R.C.S.I. During her absence on leave from May to December her place was taken by Dr. J. P. Mitchell. The report which follows is therefore a combined report by these two officers.

**REPORT BY Dr. J. MITCHELL, O.B.E., and Miss M. HOLLIDAY, F.R.C.S.I.**

"(1) *Attendances.*—The accustomed increase in the numbers of new cases has not been maintained this year. This in the main has been due to the absence of Miss Holliday combined with the introduction of the medical student to the intimacies of the examination room and labour ward. It was appreciated that the introduction of the student would be unpopular but if practical knowledge was to be acquired it was inevitable and it says much for the tact and sympathy of the student that the numbers of new cases as well as the numbers of cases admitted for confinement have been so little affected. There were 534 new cases in 1930 as against 526 in 1931; there were 113 ante-natal cases admitted for confinement in 1930 as against 110 in 1931.

"(2) *Results of Syphilitic Treatment.*—The results of treatment in syphilitic mothers both clinically and serologically are hard to obtain. The absence of signs at birth and for five days after birth, the usual time of detention after labour, is no great criterion when such children return months later with evidences of congenital syphilis. Our data regarding later evidences of syphilis are so incomplete that they are valueless. The frequency in these tables of second serum tests, "not done," resulting from irregular attendance and curtailed courses, shows that it is impossible to estimate the effect of treatment on the serum reactions. Positive evidence is however, derived from Table VII, where the inadequacy of what treatment they can be persuaded to accept is very definitely exhibited.

"(3) *Note on the suspected Common Cause of Still Birth in Baganda Primiparæ.*—The incidence of still birth is again a disturbing feature of this report. Congenital syphilis, malpresentations and other accidents of labour account for a proportion but it occurs to me (J.P.M.) that an unduly large proportion are found to be due to second stage delay for which no adequate reason has hitherto been suggested.

"(4) At this hospital still-births resulted from delayed labour in 1928 in three cases out of seven, in 1929 in three out of twelve and in 1930, though the figures are a little difficult to interpret, probably in eleven out of a total of eighteen. This year three are attributed to contracted pelvis (the type of contraction is not specified) and two to delayed second stage accompanied by inertia.

"(5) In the teaching of medical students it has been very difficult at times to find reasonable excuses for still birth when live birth had been anticipated. I have formed, however, a very definite impression that many of our cases of delay in the second stage are the results of a contraction which is apparently rare, for until recently very little reference is made to it in the text books. I refer to the funnel shaped pelvis.

"(6) Although the condition appears to be uncommon in Ireland (Jellett's Short Practice of Midwifery, 1930) and "exceedingly rare" (Herman's Difficult Labour, 1929) Whitridge, Williams, in America, found it in 6.1 per cent. of a consecutive series of 2,750 cases and Jellett mentions that it is more common in New Zealand than in Ireland.

"(7) For some years I have been perplexed by still births occurring after second stage delay accompanied by excessive moulding of the foetal head in cases where such measurements as were made as a routine gave no indication of contraction in any direction.

"(8) Interspinous, intercrystal and external conjugates combined with digital internal examination were the measurements on which I pinned my faith. I confess that if I could not feel the promontary and the external measurements were normal I depended on the sense of touch to diagnose narrowness of the outlet. In the primipara the normal tightness which disappears during labour had not been a cause for contemplation and in the absence of accurate outlet measurements I feel that there has been missed what appears to be not an uncommon condition among Baganda women, the funnel shaped pelvis.

"(9) In the hands of experts measurements are precise and informative, in the hands of the unspecialised they may be misleading. I have compared some average measurements taken by Dr. Cook, at Namirembe, with those of Miss Holliday and my own and find all in disagreement. The figures are as follows:—

		Dr. Cook.	Miss Holliday—395 cases.	Myself—368 cases
Interspinous	...	8.6	9	9.35
Intercrystal	...	9.7	9.5	10.17
External conjugate...	...	7	7.3	7.53



“(10) If such variation can occur in what are the easiest and most precise measurements we can hardly hope for accuracy in the more difficult outlet measurements and I am inclined to think that so far as the funnel shaped pelvis is concerned we would be safer to rely upon and would get better results by appreciating what the signs and symptoms tell us during labour.

“(11) In many cases there is no opportunity of measuring the case before labour has well started and even if measurements did indicate a contracted outlet I doubt whether we should have sufficient confidence in our measurements to give us the courage to saw through the pubic bone early in labour.

“(12) In what way then are we to recognise the condition at labour? A primipara with normal measurements so far as those I have enumerated are concerned comes into labour. The vertex presents, is well fixed and flexed and the first stage is in every way normal. The cervix is taken up, it disappears; the head in the upper half of the pelvis has progressed normally and is well into the passage. The membranes may or may not have ruptured; I have had to rupture them at this stage on several occasions. One expects after rupture rather a more rapid progress but this does not occur. The head is in the oblique, descent has ceased, the caput becomes prominent, and what descent is observed is due more to the increase in the size of the caput and to progressive moulding than to descent. Here deep pelvic palpation is invaluable; the head appears on opening the vulva to be descending not with the pains but by a slow process of moulding while by deep palpation little progress in descent is noted. On vaginal examination the head feels jammed in every quarter particularly in the lateral aspects, it has not rotated and the perineum is not distending. Signs of distress in the mother may now become apparent; I have found that foetal distress is evident only when it is too late. Now is the time to divide the pubis. I speak as if I had had experience of this operation. I have had none but I am convinced it is the only thing to do. I have used forceps and delivered an excessively moulded head and a dead child. I have delivered by Cæsarian section only after being convinced that moulding is becoming excessive—the foetal heart has justified this—and an infant with a fair funic pulse is delivered but does not breathe. I have left it to nature when I thought progress was possible and I have been disappointed. Two of these cases at post-mortem examination showed laceration of the tentorium with subdural hæmorrhage.

“(13) We have now acquired the requisite instruments for pubiotomy. Routine measurement of the outlet is being instituted and if the disproportions recorded as danger signs coincide with the difficulties of the labour ward and vice versa we shall have advanced a step towards the reduction of the tragedy of the still born normal infant.”

#### STATISTICAL INFORMATION.

##### A. THE ANTE-NATAL CLINIC.

1. <i>Total Cases Treated.</i>		
Remaining from 1930	...	174
New cases ...	...	526
2. <i>Attendances.</i>		
Traced to termination of pregnancy	146	
Ceased attending	...	321
Still attending	...	59
3. <i>Results.</i>		
<i>Labours.</i>		
Normal labours	...	123
Forceps	...	7
Retained placenta	...	1
Cæsarian section	...	4
Hydramnios and twins	...	1
Induction and version (toxæmia)	1	
Post partum hæmorrhage	...	1
Precipitate labour	...	1
Primary inertia (anæmia)	...	1
Abortion and miscarriage	...	4
<i>Infants.</i>		
Normal infants (includes syphilitic but otherwise normal infants)	116	
Premature	...	13
Still birth	...	9
Deaths within seven days	...	6
4. <i>Where pregnancy terminated.</i>		
Mulago Hospital	...	110
Elsewhere	...	36
5. <i>Maternal deaths</i>	...	3
6. <i>Details of abnormal conditions.</i>		
<i>Forceps.</i>		
Delayed labour	...	4
Contracted pelvis	...	3

6. <i>Details of abnormal conditions--continued.</i>		
<i>Cæsarian Section.</i>		
Tonic contraction (premature twins)	1	
Contracted pelvis (live child)	...	2
Tonic contraction (dead child)		
(native ecbolics)	...	1
<i>Induction by bougies and version.</i>		
Unconscious, jaundiced, toxic, macerated premature child	...	1
<i>Abortion and miscarriage.</i>		
Syphilis untreated	...	2
Cause unknown	...	2
<i>Premature labour.</i>		
Twins	...	4
Malaria (Muswahili)	...	1
Induction of labour	...	1
Cause unknown	...	3
<i>Still Birth.</i>		
Toxæmia	...	1
Delayed labour (inertia)	...	2
Contracted pelvis (excessive moulding)	...	2
Short cord round neck	...	1
Twins premature	...	2
Tonic contraction (native ecbolics).	1	
<i>Infant death within seven days.</i>		
Born healthy, found dead, cause unknown	...	1
Cranial injuries (forceps)	...	2
Premature twins	...	2
Congenital syphilis	...	2

7. Details in Cases of Syphilitic Infants.—

No.	STAGE OF SYPHILIS IN MOTHER.	SERUM REACTION.		Duration of treatment in weeks.	AMOUNT OF TREATMENT.			CONDITION OF CHILD.
		Before treatment.	After treatment.		Arsphenamine. grms.	Bismuth. c.c.	Mercury. grms.	
1.	II ...	Negative	Negative	4	1·8	5	...	Snuffles.
2.	Lat. ...	+ +	Not done	10	3·0	10	...	Snuffles.
3.	No signs nor history Primipara.	Negative	Not reported	...	Nil	Nil	...	Napkin area rash, condylomata.
4.	Lat. ...	±	±	16	3·0	12	...	White patches on skin and marasmic.
5.	Lat. 2 Misc. 1 still birth.	Negative	Not done	16	3·0	8	...	Typical cong. syphilis.
6.	III ...	+ +	±	16	3·0	16	...	Dermal syphilis.
7.	II ...	+	Negative	40	6·75	11	1·2	Dermal and snuffles.
8.	Lat. History of paternal syphilis.	Four blood tests were negative.		7	2·4	7	0·1	Oral sores, snuffles and epiphysitis.
9.	Lat. ...	+ ±	Not done	13	3·0	15	0·3	Dermal syphilis.
10.	Lat. ...	—	+ ±	15	3·0	15	...	Snuffles, epiphysitis.

8. Details of Syphilis in Mothers of Children Born without evidence of Congenital Syphilis.—

None ...	...	...	74	Syphilis II	...	...	4
Latent ...	...	...	34	Syphilis III	...	...	3
Syphilis I	...	...	1				

STAGE OF SYPHILIS.	SERUM REACTION.		Duration of treatment in weeks.	AMOUNT OF TREATMENT.			REMARKS.	
	Before treatment.	After treatment.		Arsphenamine. grms.	Bismuth. c.c.	Mercury. grms.		
Latent	...	+	Not done	5	2·4	9	...	Ceased attending.
"	...	+ ±	Not done	18	1·2	5	...	Irregular attendance, two other B. T's negative.
"	...	+	Not done	16	3·0	8	0·1	Ceased attending.
"	...	+ +	Not done	...	Nil	Nil	Nil	Denied infection, refused treat- ment.
"	...	Negative	+ ±	16	3·0	12	...	...
"	...	+	Negative	12	3·0	14	0·3	...
"	...	+ +	Not done	24	3·0	18	...	Irregular.
"	...	+ +	Not done	1	0·3	1	...	Did not attend.
"	...	±	±	13	3·0	15	0·4	...
"	...	Negative	+ ±	1	0·3	1	...	Did not attend.
"	...	+	±	17	3·0	19	0·1	...
"	...	+	Not done	5	1·8	7	...	Ceased attending.
"	...	+	Not done	8	3·0	7	0·2	Ceased attending.
"	...	Negative	±	14	3·0	15	0·3	...
"	...	+ +	Not done	...	Nil	Nil	Nil	Did not attend.
"	...	+ +	Negative	14	2·7	11	...	Irregular.
"	...	+ +	+ +	24	3·0	12	...	Irregular.
"	...	Negative	Not done	24	3·0	6	...	History of syphilis.
"	...	±	±	23	3·0	11	...	Irregular.
"	...	+ +	Negative	25	2·4	5	...	Irregular.
"	...	+ ±	Not done	22	3·0	9	...	Irregular.
"	...	+ +	+ +	14	3·0	12	...	...
"	...	Negative	Not done	20	3·0	12	...	History of syphilis.
"	...	±	Negative	20	3·0	12	...	...
"	...	+ ±	Not done	24	3·0	8	...	Irregular.
"	...	Negative	Not done	9	1·8	5	...	History of syphilis.
"	...	+ +	Not done	18	3·0	12	...	Irregular.
"	...	+ ±	+	9	3·0	12	...	...
Syphilis I	...	...	+ ±	40	2·25	9	...	Very irregular.
" II	...	+ +	Not done	1	0·3	1	...	Had full course last year.
" II	...	+ +	Negative	23	2·4	13	0·1	Irregular.
" II	...	+ +	Not done	20	3·0	13	0·1	Irregular.
" II	...	+ ±	Not done	22	2·4	9	...	Irregular.
" III	...	+	Not done	20	3·0	13	0·1	Irregular.
" III	...	+ ±	Not done	5	2·4	9	...	Ceased attending.
" III	...	+ +	Not done	13	3·0	6	...	Ceased attending.

Six further cases of latent syphilis bearing normal children had no treatment.



## B. NON-ANTE-NATAL CASES CONFINED AT MULAGO HOSPITAL.

1. <i>Total</i> ... .. 29	4. <i>Details of Abnormal Conditions—contd.</i>
2. <i>Results.</i>	<i>Forceps.</i>
<i>Labours.</i>	Contracted pelvis ... .. 1
Normal labour ... .. 20	P.O.P. ... .. 1
Premature labour ... .. 3	Eclampsia ... .. 1
Forceps ... .. 3	<i>Abortion.</i>
Abortion ... .. 1	Cause unknown ... .. 1
Cæsarian section ... .. 1	<i>Cæsarian Section.</i>
<i>Infants.</i>	Concealed accidental hæmorrhage 1
Normal infants ... .. 20	<i>Maternal Death.</i>
Premature infants ... .. 3	Concealed accidental hæmorrhage 1
Still births ... .. 5	<i>Premature Infants.</i>
Death within seven days ... 1	Twins ... .. 2
3. <i>Maternal Deaths</i> ... .. 1	Cause unknown ... .. 1
4. <i>Details of Abnormal Conditions.</i>	<i>Still Births.</i>
<i>Premature labour.</i>	Contracted pelvis ... .. 1
Syphilis II ... .. 1	Syphilis II premature ... .. 1
Twins ... .. 1	Eclampsia ... .. 1
Cause unknown ... .. 1	Accidental hæmorrhage (twins) 2
	<i>Died within seven days.</i>
	Premature twin ... .. 1

## REPORT BY Dr. H. B. OWEN, O.B.E., D.S.O.

29. *Ophthalmic.*—

“(1) The Ophthalmic out-patient clinic is open on one morning of the week. New cases increased from 959 in 1930 to 1,158 in the present year while attendances rose from 2,238 to 3,275.

“(2) Reference to the table appended shows that trachoma is the principal condition requiring attention. Attendances for this disease are decidedly unsatisfactory though the figures appear worse than they really are for the reason that a certain proportion of treatments are carried out at schools and subsidiary units.

“(3) The table also contains a reference to a condition hitherto undescribed; under the heading of ‘Manifestations of nematode migration.’ These manifestations comprise sub-conjunctival nodules, bulge-eye and bung-eye. The nodules are small and yellow and are situated deep in the bulbar conjunctiva. Bulge-eye is a term applied to a practically painless proptosis. Bung-eye similarly is a term which applies to a practically painless oedema of the lids. All three conditions are frequently found in combination. A high eosinophilia is a feature of all and sections of nodules have revealed the presence of an immature nematode worm. Publication has been made in the *Transactions of the Royal Society of Tropical Medicine and Hygiene*. Though the worm has not yet been identified it is hoped that identification will be accomplished as material is frequently sent home for investigation.

“(4) One very remarkable case of keratomalacia associated with cirrhosis of the liver and not due to deficiency of vitamine A in the diet was observed. This case also will be the subject of a future publication.”

## Return of Cases Attending the Ophthalmic Clinic.

	New cases	...	...	...	...	1,158
	Attendances	...	...	...	...	3,275
1. <i>Orbit.</i>						
Orbital cellulitis	...	...	2			
Gumma in orbit	...	...	3			
2. <i>Oculo-motor apparatus.</i>						
Ophthalmoplegia	...	...	2			
Concomitant strabismus	...	...	3			
3. <i>Lacrymal apparatus.</i>						
Dacryocystitis acute	...	...	3			
Dacryocystitis chronic	...	...	2			
Lacrymal fistula	...	...	1			
4. <i>Lids.</i>						
Hordeolum	...	...	11			
Chalazion	...	...	16			
Cellulitis	...	...	2			
Ectropion	...	...	1			
5. <i>Conjunctiva.</i>						
Conjunctivitis, gonococcal	...	...	23			
Conjunctivitis, phlyctenular	...	...	2			
Conjunctivitis, other varieties	...	...	216			
Trachoma I	...	...	30			
Trachoma II	...	...	116			
Trachoma III	...	...	206			
Trachoma IV	...	...	24			
5. <i>Conjunctiva—continued.</i>						
Pterygium	...	...	2			
Pinguecula	...	...	4			
Papilloma	...	...	1			
Sub-conjunctival hæmorrhage	...	...	5			
Myiasis	...	...	1			
6. <i>Cornea.</i>						
Corneal ulcer and results thereof			50			
Dendritic ulcer	...	...	1			
Phlyctenular keratitis	...	...	2			
Interstitial keratitis	...	...	11			
Foreign bodies	...	...	14			
Injuries	...	...	2			
7. <i>Sclera.</i>						
Scleritis	...	...	6			
8. <i>Iris and Ciliary Body.</i>						
Iritis and cyclitis	...	...	46			
Trauma of iris	...	...	2			
9. <i>Lens.</i>						
Dislocation	...	...	1			
Cataract, senile	...	...	8			
„ lamellar	...	...	1			
„ capsular	...	...	1			
„ complicated	...	...	3			

RETURN OF CASES ATTENDING THE OPHTHALMIC CLINIC—*continued*.

10. <i>Choroid and Retina.</i>				13. <i>Unclassified.</i>			
Choroiditis ...	...	...	3	Contusions of the eyeball ...	...	...	11
Chorio-retinitis ...	...	...	3	Perforating injuries of the eyeball ...	...	...	2
Neuro-retinitis ...	...	...	2	Traumatic rupture of the eyeball ...	...	...	2
Syphilitic hæmorrhagic retinitis ...	...	...	1	Glaucoma, acute ...	...	...	2
Renal retinitis ...	...	...	1	do chronic ...	...	...	3
Retinitis pigmentosa ...	...	...	1	do secondary ...	...	...	1
Traumatic retinal hæmorrhage ...	...	...	1	Pituitary tumour ...	...	...	1
Detached retina ...	...	...	1	14. <i>Avitaminosis.</i>			
11. <i>Optic Nerve.</i>				Xerophthalmia ...	...	...	38
Papillitis ...	...	...	5	Xerophthalmia with keratomalacia ...	...	...	2
Retro-bulbar neuritis ...	...	...	2	do corneal ulceration ...	...	...	2
Optic atrophy, primary ...	...	...	4	15. <i>Manifestations of Nematode migration.</i>			
Optic atrophy consecutive ...	...	...	3	Sub-conjunctival nodule ...	...	...	11
12. <i>Errors of Refraction.</i>				Bulge-eye ...	...	...	6
Myopia and myopic astigmatism ...	...	...	14	Bung-eye ...	...	...	15
Hypermetropia and hypermetropic astigmatism ...	...	...	10	Bung-eye, bulge-eye and nodules ...	...	...	14
Presbyopia ...	...	...	7	16. <i>Not diagnosed</i> ...			
				17. <i>No discoverable disease</i> ...			
				18. <i>Not diseases of the eye</i> ...			

30. *X-ray.*—(1) A coil apparatus ordered for Entebbe hospital almost twenty years ago has been taken over and put into working order by Dr. E. N. Cook. With the addition of a number of ingenious devices made by Dr. Cook the apparatus is capable of giving reasonably good results in bone cases. Though antiquated and with very many limitations it is infinitely better than having no apparatus at all.

(2) At present the current is obtained from accumulators which have to be sent to Kampala for charging. It is hoped, however, that it will be possible to take current from the laboratory generating plant which adjoins the X-ray room.

H. B. OWEN,  
Medical Superintendent, Mulago.

## STATISTICAL INFORMATION.

TABLE I.

## Return of Out-patients, Mulago Hospital and Subsidiary Units.

				New Cases.			Attendances, including first attendance.		
				Male.	Female.	Total.	Male.	Female.	Total.
1. Mulago Hospital ...	...	...	...	10,276	5,441	15,717	32,223	16,552	48,775
2. Mulago Sub-dispensaries (a) ...	...	...	...	19,353	13,625	32,978	91,904	58,685	150,589
3. Other Units (b) ...	...	...	...	10,420	1,214	11,634	46,582	7,143	53,725
4. Labour Camps ...	...	...	...	2,862	...	2,862	7,493	...	7,493
TOTALS ...	...	...	...	42,911	20,280	63,191	178,202	82,380	260,582

(a) Mukono, Kasangati, Bombo, Bowa, Wakiso, Mbale, Kalagala and Nakasongola from February 14th, 1931.

(b) Kampala Prison, Luzira Prison, Kampala Police Lines.

## Sub-Dispensaries, etc.

				New Cases.			Total Attendances.		
				Male.	Female.	Total.	Male.	Female.	Total.
Kasangati ...	...	...	...	4,068	2,289	6,357	11,464	6,697	18,161
Wakiso ...	...	...	...	2,511	1,909	4,420	11,075	5,446	16,521
Mbale ...	...	...	...	2,086	1,547	3,633	13,828	9,911	23,739
Bowa ...	...	...	...	3,653	2,353	6,006	13,175	7,075	20,250
Mukono ...	...	...	...	2,573	1,421	3,994	19,580	9,842	29,422
Bombo ...	...	...	...	246	224	470	3,869	2,787	6,656
Kalagala ...	...	...	...	3,035	2,894	5,929	11,314	10,374	21,688
*Nakasongola ...	...	...	...	1,181	988	2,169	7,599	6,553	14,152
Police Lines, Kampala ...	...	...	...	4,987	920	5,907	3,544	2,625	6,169
Luzira Prison ...	...	...	...	3,370	170	3,540	25,189	1,142	26,331
Kampala Prison ...	...	...	...	2,063	124	2,187	17,849	3,376	21,225
Labour Camps ...	...	...	...	2,862	...	2,862	7,493	...	7,493
TOTALS ...	...	...	...	32,635	14,839	47,474	145,979	65,828	211,807

\*Nakasongola 10½ months only.



TABLE II.

## Return of In-patients, Mulago Hospital.

	Male.	Female.	Total.
1. Remaining from 1930 ... ..	150	54	204
2. Admitted during 1931 ... ..	3,993	1,577	5,570
3. Treated 1931 (Total of 1 and 2, and of 4, 5 and 6) ... ..	4,143	1,631	5,774
4. Died in wards ... ..	268	108	376
5. Discharged from wards ... ..	3,698	1,453	5,151
6. Remaining in wards 31st December, 1931 ... ..	177	70	247
7. Total number of in-patient days ... ..	62,996	25,297	88,293
8. Average daily number in wards ... ..	172.59	69.3	241.89
9. Average duration of stay in days per patient of those discharged in 1931 ... ..	15.07	15.22	...
10. Average duration of stay in days per patient of those who died in 1931 ... ..	10.23	14.98	...
11. Average duration of stay in days per patient of those who remained in hospital at the end of 1931 ... ..	18.32	14.71	...

TABLE III.

## Return of Deaths, Mulago Hospital, 1931.

	Male.	Female.	Total both sexes.		Male.	Female.	Total both sexes.
Typhoid fever ... ..	9	2	11	Other affections, circulatory system	2	1	3
Paratyphoid B. ... ..	—	1	1	Other affections, respiratory system	—	1	1
Relapsing fever ... ..	1	—	1	Chronic bronchitis ... ..	1	—	1
Malaria, S.T. ... ..	6	3	9	Broncho pneumonia ... ..	10	7	17
Malaria, clinical ... ..	1	—	1	Pneumonia lobar ... ..	19	5	24
Whooping cough ... ..	—	1	1	Pneumonia, unclassified ... ..	26	2	28
Diphtheria ... ..	—	1	1	Empyema ... ..	1	—	1
Dysentery, amœbic ... ..	1	—	1	Pulmonary emphysema ... ..	2	—	2
Dysentery, bacillary ... ..	1	4	5	Other affections of tonsils ... ..	1	—	1
Dysentery, undefined ... ..	2	—	2	Ulcer of duodenum ... ..	1	—	1
Plague, undefined ... ..	10	2	12	Ankylostomiasis ... ..	1	3	4
Erysipelas ... ..	—	1	1	Diarrhœa and enteritis ... ..	—	1	1
Trypanosomiasis ... ..	2	—	2	Hernia ... ..	2	—	2
Anthrax ... ..	1	—	1	Enteroptosis ... ..	1	—	1
Tuberculosis, pulmonary and laryngeal	20	5	25	Acute yellow atrophy of liver ... ..	—	1	1
Tuberculosis, intestines or peritoneum	3	—	3	Cirrheses of liver, other forms ... ..	9	3	12
Tuberculosis, vertebral column ... ..	1	1	2	Biliary calculus ... ..	1	—	1
Tuberculosis, lymphatic system ... ..	1	—	1	Liver abscess ... ..	1	—	1
Tuberculosis, chronic ... ..	1	—	1	Hepatitis ... ..	—	1	1
Syphilis, hereditary ... ..	5	4	9	Jaundice ... ..	—	1	1
Gonorrhœa ... ..	1	—	1	Others (liver affections) ... ..	3	—	3
Gonorrhœa, stricture ... ..	3	—	3	Peritonitis ... ..	4	1	5
Gonorrhœa, stricture and extravasation	6	—	6	Other affections, digestive system ... ..	2	—	2
Granuloma venereum ... ..	—	1	1	Chronic nephritis ... ..	8	1	9
Septicæmia ... ..	12	5	17	Acute nephritis ... ..	—	2	2
Cancer peritoneum, intestines rectum	—	1	1	Other affections, kidneys and ureters	1	2	3
Cancer of the skin ... ..	—	1	1	Cystitis ... ..	1	1	2
Tumours, non-malignant ... ..	—	1	1	Ulcer of penis ... ..	1	—	1
Cancer or malignant tumours not specified	2	—	2	Cyst ovaries ... ..	—	1	1
Anæmia, pernicious ... ..	—	2	2	Ectopic gestation ... ..	—	3	3
Anæmia, other, and chlorosis ... ..	3	—	3	Puerperal hæmorrhage ... ..	—	1	1
Diseases of the spleen ... ..	2	—	2	Sequelæ of labour ... ..	—	1	1
Leukæmia ... ..	1	—	1	Gangrene ... ..	2	—	2
Meningitis ... ..	4	2	6	Cellulitis ... ..	1	—	1
Other affections, spinal cord ... ..	2	—	2	Ulcers ... ..	4	1	5
Apoplexy (a) hæmorrhage ... ..	3	—	3	Arthritis ... ..	2	—	2
Apoplexy (b) thrombosis ... ..	1	—	1	Premature birth ... ..	4	3	7
Other paralyzes ... ..	2	—	2	Other affections of infancy ... ..	1	2	3
Eclampsia ... ..	—	2	2	Still born ... ..	9	5	14
Infantile convulsions ... ..	—	1	1	Senile dementia ... ..	3	—	3
Otitis media ... ..	—	1	1	Snake bite ... ..	1	—	1
Pericarditis ... ..	3	—	3	Burns by fire ... ..	1	6	7
Acute endocarditis ... ..	2	—	2	Wounds (cutting) ... ..	1	1	2
Other diseases of the heart—				Fracture ... ..	4	2	6
(a) Mitral ... ..	2	1	3	Other external injuries ... ..	4	1	5
Pulmonary ... ..	1	—	1	Sudden death (cause unknown) ... ..	1	—	1
(b) Myocarditis ... ..	—	1	1	Asthénia ... ..	9	2	11
D.A.H. ... ..	1	—	1	Shock ... ..	—	1	1
Others ... ..	6	1	7				
Aneurism ... ..	1	—	1		268	108	376

TABLE IV.

Return of Surgical Operations, Mulago Hospital.

1. General Abdominal Operations	...	...	166	4. Eye Operations	...	...	...	132
Hernia	...	...	107	Tarsectomy	...	...	26	
Strangulated hernia	...	...	24	Iridectomy	...	...	5	
Splenectomy	...	...	2	Cataract extraction	...	...	6	
Laparotomy	...	...	25	Enucleation	...	...	6	
Gastro-enterostomy	...	...	7	Curette evacuation	...	...	4	
Appendectomy	...	...	1	Evisceration	...	...	2	
				Trephine for glaucoma	...	...	4	
				Miscellaneous	...	...	79	
2. Gynæcological and Obstetric Operations	...	...	59	5. Amputations	...	...	...	50
Curettage	...	...	3	Limbs	...	...	17	
Salpingectomy	...	...	9	Fingers and toes	...	...	33	
Ovariectomy	...	...	2					
Hysterectomy	...	...	7	6. For New Growths	...	...	...	20
Plastic	...	...	5	Malignant	...	...	11	
For ectopic gestation	...	...	3	Benign	...	...	9	
Cæsarian section	...	...	5					
Forceps	...	...	10	7. Miscellaneous Operations	...	...	...	65
Removal of retained products	...	...	8	Unclassified	...	...	401	
Unclassified	...	...	7	Curettage of ulcers	...	...	160	
				Sequestrotomy	...	...	20	
3. Genito Urinary Operations	...	...	369	Skin graft	...	...	27	
Circumcision	...	...	257	For fractures and dislocations	...	...	20	
External urethrotomy	...	...	23	Haemorrhoids	...	...	4	
Hydrocele	...	...	13	Thyroidectomy	...	...	3	
Miscellaneous	...	...	76	Mastoid	...	...	11	
				Trephining the skull	...	...	5	
TOTAL SURGICAL OPERATIONS			...	1,447.				

TABLE V.

List of Staff, Mulago Hospital and Units.

A. European.				C. Africans—(continued).			
Medical Superintendent	...	...	1	Male Attendants—Class VI	...	...	47
Medical Officers	...	...	5	Nurses—Class VIII	...	...	2
Senior Nursing Sister	...	...	1	Class IX	...	...	21
Lady Steward	...	...	1	Miscellaneous employees—Class I	...	...	1‡
Nursing Sisters	...	...	4	Class II	...	...	4
Superintendent	...	...	1	Class III	...	...	4
Assistant Superintendent and Dispenser	...	...	1	Class IV	...	...	6
				Class V	...	...	46
B. Asiatics.				Menial Staff:—			
Sub-Assistant Surgeons	...	...	2*	Sweepers	...	...	47
Clerk	...	...	1	Peelers	...	...	6
C. Africans.				Cemetery attendants	...	...	2
Senior African Medical Assistants	...	...	3†	Garden boys	...	...	9
Male Attendants—Class I	...	...	1	Sundry services	...	...	2
Class II	...	...	5	Casual porters	...	...	55
Class III	...	...	8	Prison labour	...	...	As available.
Class IV	...	...	39				
Class V	...	...	44				

\* One Mulago, one Bombo. † One attached to Medical School. ‡ Attached to Medical School.

TABLE VI.

Native Attendants Recruited, Posted, etc.

	Male—Classes.						Female—Classes.			Total Male.	Total Female.	Total both Sexes.
	I	II	III	IV	V	VI	VII	VIII	IX			
Recruited	...	...	1	...	1	9	...	1	9	11	10	21
Transferred to Mulago	2	...	...	2	...	...	...	...	...	4	...	4
Transferred for training	...	...	...	...	1	1	...	...	...	2	...	2
TOTAL INWARDS	2	...	1	2	2	10	...	1	9	17	10	27
Posted	2	...	2	6	4	1	...	...	...	15	...	15
Dismissed	...	...	...	1	1	1	...	...	4	3	4	7
Resigned	...	...	...	...	...	1	...	...	3	1	3	4
Recalled	...	...	...	...	...	...	...	...	...	...	...	...
Died	...	...	...	1	1	...	...	...	1	2	1	3
TOTAL OUTWARDS	2	...	2	8	6	3	...	...	8	21	8	29



TABLE VII.

**Return of Venereal Diseases for Mulago and the following Sub-dispensaries:—Mukono, Bombo, Bowa, Kalagala, Kasangati, Wakiso, Mbale, Nakasongola, Kampala Prison, Luzira Prison, Labour Camps and Police Lines.**

			MALE.			FEMALE.			BOTH SEXES.										
			New cases 1931.			Attendances, including first attendance.			New cases 1931.			Attendances, including first attendance.							
			Mulago.	Sub-dispensaries.	Total.	Mulago.	Sub-dispensaries.	Total.	Mulago.	Sub-dispensaries.	Total.	Mulago.	Sub-dispensaries.	Total.					
Syphilis, primary	...	...	...	257	859	1,116	2,328	12,045	14,373	715	8,484	9,199	362	1,340	1,702	3,043	20,529	23,572	
	...	...	...	502	1,446	1,948	2,754	18,303	21,057	2,845	18,741	21,586	1,071	3,180	4,251	5,599	37,044	42,643	
	...	...	...	676	2,320	2,996	3,905	31,243	35,148	3,890	26,675	30,565	1,293	4,505	5,798	7,795	57,918	65,713	
	...	...	...	3	18	21	...	...	...	...	...	...	8	26	34	...	...	...	
	...	...	...	30	242	272	278	4,967	5,245	926	6,284	7,210	206	890	1,096	1,204	11,251	12,455	
Gonorrhœa	...	...	...	348	1,045	1,393	4,206	16,570	20,776	579	1,564	2,143	429	1,305	1,734	4,785	18,134	22,919	
Venereal observation	...	...	...	...	...	...	11,276	15,120	26,396	6,498	8,837	15,335	...	...	...	17,774	23,957	41,731	
TOTALS			1,816	5,930	7,746	24,747	98,248	122,995	1,553	5,316	6,869	15,453	70,585	86,038	11,246	14,615	40,200	168,833	209,033

Consumption of salvarsan substitutes in grammes :—Mulago Hospital	...	5,150.
Subsidiary units	...	7,472.

TABLE VIII.

Return of Government Labour Camps under care of Mulago.

						<i>Number.</i>	<i>Rate per 1,000 per annum.</i>
1.	Average daily strength in camps	...	...	...	...	734	1,000
2.	Cases of diarrhoea and dysentery	...	...	...	...	43	57
3.	Cases of malaria	...	...	...	...	275	374
4.	Cases of "fever"	...	...	...	...	232	316
5.	Cases of all other diseases	...	...	...	...	2,587	3,524
TOTAL CASES, ALL DISEASES						3,137	4,271
7.	Deaths from diarrhoea and dysentery	...	...	...	...	—	—
8.	Deaths from other causes	...	...	...	...	6	8·17
TOTAL DEATHS, ALL DISEASES						6	8·17
10.	Number of admissions to Mulago Hospital for dysentery and diarrhoea	...	...	...	...	9	12
11.	Number of attendances at camp dispensaries	...	...	...	...	10,355	14,107
12.	Number of "off duty" days with hospital days	...	...	...	...	2,052	2,795

APPENDIX III.

Report on Blackwater Fever in Uganda for 1931.

By DR. N. C. MACLEOD, MALARIA OFFICER.

162 cases of blackwater fever were reported in Uganda during 1931, the racial distribution being :—

Europeans	...	...	..	13
Asiatics	...	...	...	142
Africans	...	...	...	7

Details are available for 113 cases treated by Government Medical Officers and for three out of six cases treated by mission doctors. Private practitioners reported 43 cases, all Asiatics, but supplied no information apart from locality, date of occurrence and result of treatment.

TABLE I.

The number of cases, deaths and case mortality for 20 years.

Year.	Cases.	Deaths.	Case Mortality %.	Year.	Cases.	Deaths.	Case Mortality %.
1912	45	9	20·0	1922	83	14	16·8
1913	58	12	20·7	1923	71	17	24·0
1914	82	21	25·6	1924	70	23	32·8
1915	65	18	27·7	1925	81	22	27·1
1916	46	10	21·7	1926	170	50	29·0
1917	49	8	16·5	1927	106	28	26·4
1918	40	7	17·5	1928	166	40	24·1
1919	83	13	21·7	1929	113	18	15·9
1920	56	7	12·5	1930	147	36	24·5
1921	62	15	24·1	1931	162	43	26·5

Seven cases amongst natives, all of whom recovered, are included in the 1931 figures. Both the number of cases and the case mortality are above the averages for previous years.



TABLE 2.

2. *Morbidity Rates and Case Mortality.*

Year.				Population, Asiatic and European.	Morbidity Rate, Asiatics and Europeans.	Morbidity Rate, Europeans only.	Morbidity Rate, Asiatics only.	Case Mortality, Europeans.	Case Mortality, Asiatics.	Case Mortality, Africans.
								%	%	%
1923	...	...	...	7,810	9.99	...	...	...	...	...
1924	...	...	...	8,680	8.07	...	...	...	...	...
1925	...	...	...	10,879	7.45	...	...	30.0	25.7	...
1926	...	...	...	13,365	12.72	12.5	12.6	9.5	32.6	...
1927	...	...	...	13,438	7.89	11.2	9.1	30.0	23.1	...
1928	...	...	...	13,824	12.02	11.2	11.9	14.2	27.7	...
1929	...	...	...	14,534	7.42	5.5	5.3	9.0	22.3	50.0
1930	...	...	...	15,965	8.76	9.16	8.7	22.2	25.4	14.2
1931	...	...	...	16,666	9.30	6.5	9.7	30.8	27.5	...

The decreased European morbidity rate combined with a high case mortality is to be noted.

TABLE 3.

3. *The Distribution throughout the Protectorate was as follows:—*

Province.						Europeans.		Asiatics.		Totals.	
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Buganda	...	...	...	...	...	3	2	59	19	62	21
Eastern	...	...	...	...	...	6	1	72	17	78	18
Western	...	...	...	...	...	2	0	1	1	3	1
Northern	...	...	...	...	...	2	1	10	2	12	3
TOTAL	...	...	...	...	...	13	4	142	39	155	43

The seven African cases are not included in the above table.

TABLE 4.

4. *Incidence of Blackwater Fever by Stations (all reported cases are included).*

BUGANDA PROVINCE.—						EASTERN PROVINCE.—					
		1928	1929	1930	1931			1928	1929	1930	1931
Kampala	...	52	35	29	35	Jinja	...	38	13	21	11
Masaka	...	...	2	...	1	Mbale	...	17	12	11	13
Entebbe	...	2	1	5	2	Tororo	...	5	12	2	12
Bombo	...	7	...	...	...	Soroti	...	9	14	8	8
Mulago	...	...	2	...	1	Lira	...	5	10	13	8
Lugazi	...	...	...	5	8	Namasagali	...	...	6	6	5
District	...	...	...	7	16	Kaliro	...	...	...	6	...
						Iganga	...	...	...	2	3
						Ngora	...	...	...	2	5
						District	...	...	...	6	16
NORTHERN PROVINCE.—						WESTERN PROVINCE.—					
Arua	...	1	1	7	2	Mbarara	...	1	1	5	1
Hoima	...	2	...	2	...	Fort Portal	...	2	...	...	3
Masindi	...	9	1	3	3	Kichwamba	...	...	...	5	...
Gulu	...	2	1	1	7	District	...	...	...	...	1
Kitgum	...	...	1	1	1						
Butiaba	...	3	1	...	...						
Moyo	...	2	...	...	...						

TABLE 5.

5. *The Monthly Variation over eight years.*

		1924	1925	1926	1927	1928	1929	1930	1931	Total.
January	...	5	4	12	11	15	6	7	12	72
February	...	4	8	8	12	6	5	7	4	54
March	...	6	3	16	16	14	7	12	12	86
April	...	2	5	5	8	15	5	7	10	57
May	...	7	9	25	8	14	3	13	15	94
June	...	8	9	20	10	18	7	19	25	116
July	...	10	16	18	15	29	11	27	15	141
August	...	7	5	20	5	22	11	7	19	96
September	...	2	8	8	7	13	4	17	9	68
October	...	3	3	13	7	5	8	9	5	53
November	...	10	5	14	4	3	17	6	14	73
December	...	6	6	10	3	4	8	16	8	61
		70	81	169	106	158	92	147	148*	971

The maximum incidence of blackwater fever was in June, following the maximum number of malaria cases in May. This is shown graphically on the foregoing page.

\*For 14 cases reported by a private practitioner, who has now left Uganda, the date of occurrence was not given and these cases are not included in above table.

TABLE 6.

6. *Officials, Non-Officials, Race and Sex :—*

					CASES.			DEATHS.		
					Male.	Female.	Total.	Male.	Female.	Total.
EUROPEANS :—										
Officials	...	...	...	...	3	...	3	1	...	1
Non-officials reported by Government Medical Officers	...			...	5	3	8	...	1	1
Non-officials reported by Church Missionary Society	...			...	2	...	2	2	...	2
TOTAL					10	3	13	3	1	4
ASIATICS :—										
Officials	...	...	...	...	21	...	21	4	...	4
Non-officials	...	...	...	...	50	23	73	18	2	20
Non-officials reported by private practitioners	...			..	37	7	44	14	...	14
Non-Officials reported by Church Missionary Society	...			...	3	1	4	...	1	1
TOTAL					111	31	142	36	3	39
AFRICANS :—										
Reported by Government Medical Officers	...			...	7	...	7	...	...	...
TOTAL—ALL RACES					128	34	162	39	4	43

TABLE 7.

7. *Age periods:—*A case of 5 years is shown under 0—5 and so on :—

Period in years.				1928.			1929.			1930.			1931.		
				Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.	
0— 5	...	...	...	7	...	1	2	...	1	7	...	3	7	...	2
5—10	...	...	...	9	...	4	2	...	1	8	...	1	6	...	1
10—15	...	...	...	5	...	1	...	...	...	5	...	2	7	...	1
15—20	...	...	...	11	...	2	3	...	1	12	...	2	15	...	3
20—25	...	...	...	38	...	10	19	...	3	31	...	4	19	...	5
25—30	...	...	...	27	...	8	17	...	2	30	...	11	21	...	4
30—35	...	...	...	17	...	1	8	...	3	7	...	1	20	...	5
35—40	...	...	...	19	...	5	13	...	3	11	...	3	10	...	1
Over 40	...	...	...	21	...	8	9	...	2	8	...	2	12	...	5
Not stated	...	...	...	4	...	...	...	...	2	28	...	7	45	...	16
TOTAL	...	...	...	158	...	40	73	...	18	147	...	36	162	...	43

TABLE 8.

8. *Length of Residence in Tropics (Europeans only) :—*

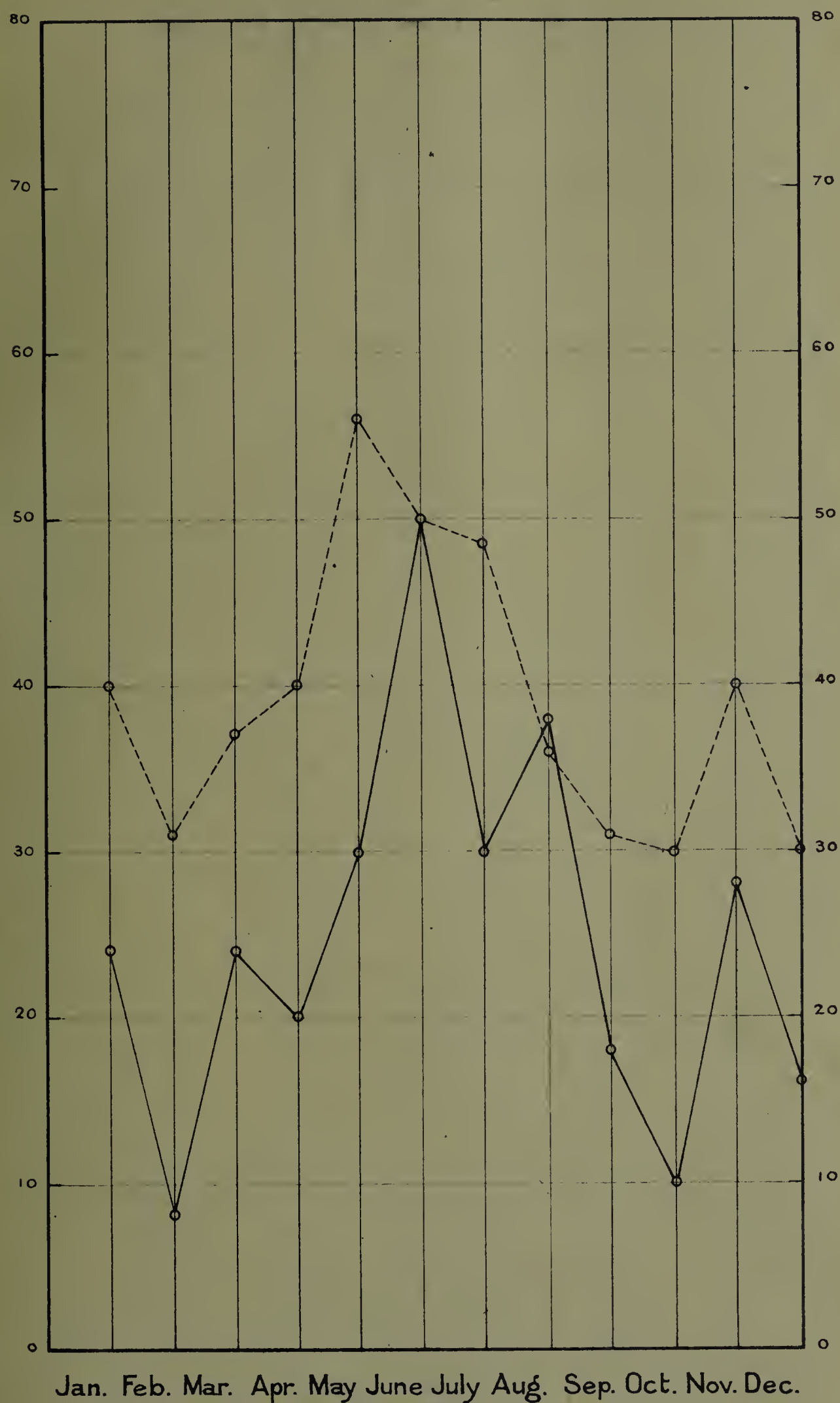
<i>Years of residence.</i>	<i>Number of cases.</i>	<i>Previous attacks of Blackwater Fever.</i>
0— 2	—	—
2— 5	2	—
5—10	5	—
10—15	1	—
15—20	4	one case had his first attack in July, 1931, and his second in November.
Not recorded	1	—
TOTAL		13

NOTE :—Residence of five years in class 2—5 and so on.

It is to be noted that in no case was there a history of blackwater fever previous to the year under review. This is in striking contrast to the 1930 figures which showed 13 out of 18 cases as having had one or more previous attacks.



# BLACKWATER FEVER REPORT 1931



## REFERENCE

BLACKWATER FEVER CASES X 2 ..... SHOWN THUS O—O  
 MALARIA (CASES AMONGST EUROPEAN OFFICIALS) ,, ,, O---O





TABLE 9.

9. Previous attacks of Blackwater Fever:—

- 21 had one previous attack and six died.
- 9 had two previous attacks and two died.
- 3 had three previous attacks and one died.

Cases with one previous attack.—

Intervals.			0—6 months.	$\frac{1}{2}$ —1 year	1—1½ years	1½—2½ years	2½—5 years	5—10 years	Total.
Cases	...	...	2	5	3	2	5	4	21
Deaths	...	...	1	—	1	—	4	—	6

Cases with two previous attacks.—

		Interval between first and second attack.		Interval between second and third attack.		Deaths.
1	...	1 year		...	1 year	1
1	...	2 years		...	3 years	1
1	...	1 year		...	1 year	—
1	...	1 year		...	6 months	—
1	...	1 year		...	1 year	—
1	...	12 years		...	1 year	—
1	...	4 months		...	1 year	—
1	...	6 months		...	1 month	—
1	...	2 years		...	1 year	—

Cases with three previous attacks.—

Intervals.		1st and 2nd.		2nd and 3rd.		3rd and 4th.		Deaths
1	...	1 year		...	6 months	...	6 months	1
1	...	4 years		...	5 years	...	1 year	—
1	...	1 year		...	1 year	...	1 year	—

10. Prophylaxis against Malaria:—

Quinine habits.—

Quinine taken regularly	...	...	—	Quinine not taken	...	...	9
Quinine taken irregularly	...	...	15	Quinine habits not recorded	...	...	138

Considering the close relationship between blackwater fever and malaria it is to be regretted that fuller information has not been supplied regarding the patients' quinine habits. However, as 105 cases had one or more attacks of malaria during the six months previous to the onset of blackwater, it may be assumed that the majority of those took quinine irregularly.

Asiatics are generally strongly opposed to quinine as they consider it to be the provoking agent in blackwater fever. The result is that quinine, if taken, is taken irregularly as to be ineffective in either preventing or curing an attack of malaria.

Number of attacks of Malaria during previous six months:—

Attacks	...	...	0	...	1	...	2	...	3	...	4	...	5	...	6 or more
Cases	...	...	8	...	12	...	13	...	13	...	12	..	4	...	51

The number of malaria attacks was not stated for three cases.

11. Microscopic Examination of the Blood:—

Blood slides were examined in 97 cases. Malarial parasites were found in 52 cases, that is, in 53·6% of those examined. Subtertian parasites were found in 42 cases, benign tertian in one case and in nine cases parasites were scanty and not differentiated.

Only on seven occasions was the blood re-examined, five cases were negative after the first day, one case showed subtertian gametocytes throughout the illness, and the other case showed subtertian parasites during a relapse.

12. Predisposing Causes:—

(1) Malaria.—The malarial history of the fully recorded cases was as follows:—

105 cases had one or more attacks during the previous six months and, of these, 90 were stated to be suffering from malaria at the onset of blackwater fever. In most cases the cause of the attack was given as chronic malaria, which had been neglected or indifferently treated.

(2) *Occupation* (Europeans) :—

The 13 cases amongst Europeans were distributed as follows :—

Administrative Officers ...	2	Mechanics ...	2
Magistrate ...	1	Road Foreman ...	1
Missionaries ...	6*	Planter ...	1

One of the Administrative Officers was touring East Africa while on leave from Northern Rhodesia. His history was as follows :—

Patient was of excellent physique and had always enjoyed good health, except for an attack of acute nephritis two years previously. Had lived in Africa for six years but stated never had malaria. Owing to breakdown of car had spent night in swamp three weeks previous to onset of blackwater and had not been well since. No sign of suppression during attack. Albuminuria commenced five days after blackwater ceased. After temperature normal for three days, and patient had seemingly “turned the corner” to convalescence, the parenchyma of the kidneys apparently gave way. Died 48 hours later.—Dr. Schofield, C.M.S.

In all other European cases there was a history of previous attacks of malaria.

(3) *Occupation* (Asiatics) :—

Artizans ...	28	Clerks ...	10
Traders ...	23	Miscellaneous ...	9
Females ...	20	Not stated ...	40
Children ...	12		

As in previous years the important predisposing causes are given as chronic malaria, a low standard of living, malnutrition and over-exertion.

13. *Treatment*.—Was similar to that given in recent years with the following exception.

Dr. Wallace, Senior Medical Officer, Mbale, treated eight cases, with no deaths, by hypodermic injections of Plasmoquin Simplex and Collosal Calcium during the first few days of the attack. He states that “with this treatment, plus early alkalinisation, good results were obtained.”

14. *Native Cases*.—The generally accepted theory that blackwater fever in a native is associated with his transfer from a free to a highly malarious district, or even from one malarious district to another, is not supported by the native cases during 1931. Of seven native cases, three contracted blackwater fever while resident in their own districts and one of them, an Acholi, was definitely stated never to have left Gulu and never to have taken quinine. The native develops a high resistance to malaria but not complete immunity. He may be infected and have no symptoms. But, if the infections are frequent and severe, it is probable that sufficient hæmolytic toxin is developed to cause blackwater fever as in other races.

N. C. MACLEOD,

*Malaria Officer.*

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\*Includes three nurses.



## Report on Sleeping Sickness for the Year 1931.

BY DR. S. W. T. LEE, SENIOR HEALTH OFFICER.

### I. GENERAL.

TABLE I.

The following table shows the incidence of sleeping sickness for the last six years in Uganda:—

Year.			<i>Proved Microscopically.</i>		<i>Suspected.</i>		<i>Total.</i>
1926	...	...	...	—	...	—	372
1927	...	...	...	283	...	213	496
1928	...	...	...	656	...	368	1,024
1929	...	...	...	1,572	...	1,777	3,349
1930	...	...	...	638	...	89	727
1931	...	...	...	471	...	42	513

TABLE II.

Deaths attributed to sleeping sickness (figures derived from reports from District Medical Officers and Native Administration).

1905	...	...	8,003	1914	...	...	466	1923	...	...	16
1906	...	...	6,522	1915	...	...	352	1924	...	...	194
1907	...	...	4,175	1916	...	...	209	1925	...	...	209
1908	...	...	3,662	1917	...	...	229	1926	...	...	123
1909	...	...	1,782	1918	...	...	235	1927	...	...	79
1910	...	...	1,546	1919	...	...	109	1928	...	...	67
1911	...	...	1,487	1920	...	...	69	1929	...	...	78
1912	...	...	932	1921	...	...	32	1930	...	...	51
1913	...	...	708	1922	...	...	31	1931	...	...	117

With regard to the 117 deaths which have occurred in 1931, only 23 are known to have been directly due to sleeping sickness as the remainder died in their own homes in the districts, in many cases from intercurrent disease.

TABLE III.

Table III shows the distribution of cases of sleeping sickness by districts during 1931.

				New cases diagnosed microscopically.	Suspected.	Old cases reviewed and treated.	Deaths in hospital and district.
BUGANDA PROVINCE:—							
Mengo District	...	...	...	5	...	1	2
WESTERN PROVINCE:—							
Fort Portal	...	...	...	10	...	21	...
NORTHERN PROVINCE:—							
Kitgum	...	...	...	3	8	3	1
Gulu	...	...	...	3	9	71	11
Arua	...	...	...	59	...	...	4
Aringa	...	...	...	326	...	63	61
Madi	...	...	...	8	24	94	18
Pai-Ida	...	...	...	9	...	108	20
Packwach	...	...	...	39	...		
EASTERN PROVINCE:—							
Jinja	...	...	...	1	1	...	...
Tororo	...	...	...	8	...	4	...
TOTAL				471	42	365	117

1. From the above tables it will be seen that the number of new cases of sleeping sickness has steadily declined since 1929.

2. It will also be seen from Table I that the number of suspected cases has fallen a great deal, and this is attributable to the fact that whenever possible all cases, whether diagnosed by African Medical Attendants, European Sleeping Sickness Inspectors, or Medical Officers, were diagnosed microscopically.

3. The death rate, allowing for the fact that probably 50 per cent. of the total number reported were due to intercurrent diseases among those who at one time or another had suffered from sleeping sickness, is practically the same as last year.

The three possible explanations put forward in the last two reports may have contributed to this satisfactory situation, but there seems to be no doubt that it is a fact that extremely few persons die each year as a result of having contracted sleeping sickness.

The possible explanations were briefly that—

(a) The total of deaths is incorrect (but this factor of error has been constant since 1905).

(b) That owing to treatment now being easily available the case mortality from sleeping sickness has been decreased.

(c) That the causative trypanosomes are not of a virulent nature (although apparently in the West Nile they are easily transmissible.)

4. As detailed in the Annual Report for 1930, treatment given for sleeping sickness consisted of the intravenous administration of Trypanarsyl and Bayer 205. No reports have been received from Medical Officers as to the occurrence of any accident or disability as a result of administering the above drugs. On the other hand most of the reports submitted tend to show that if treatment is given for sleeping sickness at a reasonably early date after infection has occurred it is possible to effect a "cure" with little or no residual disability.

## II. STAFF.

Medical Officers were available as required for special sleeping sickness duties throughout the year at Moyo, Aringa, and Pai-Ida, whilst District Medical Officers were posted to all those areas in which sleeping sickness occurred, Kitgum, Gulu, Tororo, and Fort Portal. The continued presence of these officers in sleeping sickness areas has resulted in the early detection and treatment of cases of sleeping sickness which has been reflected in the diminishing number of persons infected by sleeping sickness in Uganda.

2. Two European Sleeping Sickness Inspectors were employed throughout the year under the District Officer, West Nile. They supervise the native sleeping sickness inspecting staff employed by the District Officer and are largely responsible for actually seeing that the recommendations of the various Medical Officers are carried out. It is probable that the continued employment of these officers will not be required after this year, provided that the posting of Medical Officers can be maintained as at present, because the methods found most satisfactory in the control of sleeping sickness in the West Nile differ in many ways from those which are effective in other sleeping sickness areas such as the Victoria-Nyanza-Nile sleeping sickness areas. The West Nile sleeping sickness area is composed almost entirely of a water-shed which abounds in great numbers of streams, rivers and rivulets which all harbour *G. palpalis*. The great length of the waterways to be dealt with precludes debushing on a large scale, and all that can be done is the maintaining of fly-free drinking places and road crossings. Though these clearings are useful, yet their utility as a means of preventing the spread of sleeping sickness is of infinitely less importance than the regular examination and treatment of early cases of sleeping sickness by Medical Officers. In fact it is impossible to sever the man-fly-man cycle either by debushing or even by concentration of people, since the people of the area are largely nomadic, and therefore the only effective remedy for the prevention of sleeping sickness epidemics is the treatment of all the early cases. During the year the success of the policy of attraction for diagnosis and treatment was marked, and the conclusion is that in the West Nile district the presence of a sufficiency of Medical Officers is essential if sleeping sickness is to be prevented from assuming formidable proportions, and, in addition to causing local deaths, from spreading to other parts of Uganda which are now free from sleeping sickness.

3. One European Sleeping Sickness Inspector, Mr. C. W. Chorley, was employed throughout the year on supervising the enforcement of the Sleeping Sickness Ordinance and Administrative Orders in the Victoria-Nyanza-Nile sleeping sickness area. To a large extent he has controlled the movements of native staff and Government labour employed in the various districts in his area. The condition of the sleeping sickness clearings in the district, Mengo, where this Inspector has been employed for some years is excellent and reflects credit upon him and he has carried out his duties in a very efficient manner.

## III. LEGISLATIVE POLICY.

During the year an Ordinance was enacted to remedy minor anomalies which had appeared in the 1928 Sleeping Sickness Ordinance. The main provision of these amendments was that certain powers formerly vested in District Officers could be delegated to certain Chiefs. It is expected that the administration of the Ordinance will be rendered more simple by this amendment.



2. As detailed in last year's report the rigid enforcement of the Sleeping Sickness Ordinance has been largely abandoned and a policy of attraction of natives for curative treatment substituted. It is still necessary to have occasional compulsory examinations of persons in areas where new epidemics of sleeping sickness have arisen and also for purposes of reviewing old cases, but in the main Medical Officers have relied more and more on patients presenting themselves voluntarily for diagnosis and treatment. In the West Nile the signs and symptoms of sleeping sickness are well known, and it is found that when a Medical Officer has gained the confidence of the inhabitants of his district little difficulty is experienced in persuading people to attend the hospitals and dispensaries that are now available within a reasonable distance of most of the people of the country.

#### IV. SLEEPING SICKNESS AREAS IN UGANDA.

##### A. WEST NILE SLEEPING SICKNESS AREAS.

###### (i) *Incidence of Sleeping Sickness in the Arua Area :—*

	1928	1929	1930	1931
New cases from Arua area ...	335	224	79	59
New cases in adjacent areas ...	—	—	110	—
Suspected cases treated ...	—	—	9	—
Old cases treated ...	—	—	32	—

The number of sleeping sickness cases dealt with in the area has decreased during the year as a result of the suppression of the epidemic which occurred in and about the township during 1930. Most of the rivers and streams harbouring *G. palpalis*, in or near Arua, have been debushed and in consequence few new cases have originated in this area. The majority of the cases treated in Arua hospital and location actually contracted the disease elsewhere.

###### (ii) *Aringa Infected Area :—*

	1928	1929	1930	1931
New cases treated from Aringa county ...	411	881	301	291
New cases from adjacent counties ...	—	62	48	35
Suspected cases ...	—	641	—	—
Old cases reviewed and treated ...	—	—	199	63

Although the number of new cases of sleeping sickness detected in the Aringa area has not markedly decreased yet the position can be considered satisfactory because the Medical Officer posted to Aringa has conducted a systematic search for cases of sleeping sickness the whole year. This position has resulted in a number of cases of sleeping sickness having been discovered which otherwise would not have come to light, and which might have become foci for the spread of this disease. Furthermore the African staff employed by the Medical Officer has become more efficient and the conversion of gland posts into sub-dispensaries has caused greater numbers of people to attend voluntarily for examination.

2. Preventive measures were continued during the year as in former years, but it becomes yearly more apparent that the best method of preventing epidemics and deaths from sleeping sickness is the presence of a Medical Officer in each sleeping sickness area who is able to detect and treat early cases of sleeping sickness.

###### (iii) *Junam Infected Area :—*

	1928	1929	1930	1931
New cases treated from Junam county area ...	53	379	39	39
New cases from adjoining areas ...	—	—	—	9
Suspected cases ...	—	883	10	—
Old cases reviewed and treated ...	—	—	—	108

In this area the number of new cases has actually increased slightly. This is due to the fact that a Medical Officer was posted to the area for the first time for the whole year and he systematically examined all the inhabitants of the area. This has resulted in the discovery of a number of cases which would otherwise have been overlooked.

##### B. GULU SLEEPING SICKNESS AREAS.

###### (i) *Madi—Incidence of Sleeping Sickness in the Madi Area (East and West) :—*

	1926	1927	1928	1929	1930	1931
New cases treated ...	239	167	36	36	32	32*
Suspected cases ...	18	72	68	92	—	24
Old cases reviewed and treated ...	—	—	—	—	370	94

The incidence of sleeping sickness has continued to decrease in Madi during the year although the population were all examined on several occasions during the year and 99 per cent. of the people presented themselves for examination. This satisfactory state of affairs, as stated in last year's report, is due to the confidence inspired by the District Medical Officer, Mrs. Twining. Only 18 deaths are attributed to sleeping sickness in the Madi area during the year.

\* This figure includes the 24 suspected cases.



2. Proposals have been put forward for re-opening certain parts of the restricted areas which abut on East Madi and arrangements have been made for carrying out a "fly survey" of the area before re-occupation is permitted.

(ii) *Acholi Area.*—

				1928		1929		1930		1931
New cases treated	...	...	...	116	...	84	...	14	...	12*
Suspected cases	...	...	...	—	...	—	...	19	...	9
Old cases reviewed and treated	...	...	...	—	...	—	...	25	..	71

The number of cases of sleeping sickness diagnosed in the Acholi area has decreased although the District Medical Officer examined all the people in the district during the year. Eleven persons are said to have died from sleeping sickness during the year.

C. CHUA SLEEPING SICKNESS AREA.

				1928		1929		1930		1931
New cases treated	...	...	...	19	...	39	...	3	...	11†
Suspected cases	...	...	...	—	...	20	...	35	...	8
Old cases reviewed and treated	...	...	...	—	...	—	...	11	...	3

A Medical Officer was posted to Kitgum and examined all the people in the district during the year. One death only was reported as being due to sleeping sickness during the year. This was an old case.

D. EASTERN PROVINCE SLEEPING SICKNESS AREAS.

(i) *The Samia Infected area and the Busitema Sleeping Sickness areas.*

				1926		1927		1928		1929		1930		1931
New cases treated (Tororo and Lumino)	42	...	25	...	15	...	9	...	6	...	8			
Suspected cases investigated and treated	—	...	—	...	—	...	—	...	16	...	—			
Old cases reviewed and treated	—	...	—	...	—	...	—	...	5	...	4			

The population was examined twice during the year by the District Medical Officer, Tororo, and there has been no increase in the number of sleeping sickness cases in this area. Once again the number of natives of Kenya Colony, or Uganda natives infected in Kenya, who were treated for sleeping sickness at Tororo and Lumino has exceeded the number of Uganda natives who suffered from the disease and who had contracted it locally.

(ii) *Siroko Valley and Mpologoma Sleeping Sickness Areas.*

No cases occurred during the year.

E. VICTORIA NYANZA—NILE SLEEPING SICKNESS AREAS.

All the sleeping sickness areas in Buganda were toured during the year by Medical Officers and the inhabitants examined. Further the European Sleeping Sickness Inspector also toured the whole area and transferred any clinically suspicious cases of sleeping sickness to the nearest hospital for investigation and treatment. Only seven cases were discovered five of whom were new cases and were treated at Mulago where two of them died, the other two were old cases. The following tribes were represented:—Two Baganda (old cases), one Alur, two Lugbara and one Ruanda native. One case, a Kavirondo native of Kenya, was treated at Jinja.

2. Except in the vicinity of Luzira, in Buganda, and to a lesser extent at Massesse in Busoga, there has been no real attempt to reclaim and repopulate the foreshore of Lake Victoria. Clearings everywhere are fairly satisfactory and no epidemics occurred anywhere on the lake shore, nor did any of the natives of Buganda or Busoga become infected during the year. In consequence it would appear desirable that every opportunity should be taken to repopulate the foreshore of the lake, after the necessary clearings have been carried out.

F. THE LAKE EDWARD—GEORGE SLEEPING SICKNESS AREAS.

As a result of representations made by the Belgian Sleeping Sickness Officer employed on the Semliki river, on the border of the Lake Edward—George sleeping sickness area, a Senior Health Officer was detailed to confer with him during August. At this conference held on the border it transpired that natives of Uganda were receiving treatment at the Congo sleeping sickness treatment centre at Kasindi. Consequently during October the population of the Lake Edward—George sleeping sickness area were examined and five new cases of sleeping sickness were discovered amongst Uganda natives and three amongst Congo natives. At the end of the year a total of 31 cases had been under treatment at Fort Portal or at the sleeping sickness post situated at Mpondwe. The people of the area are being examined at intervals by a native Sleeping Sickness Inspector and a Medical Officer will also examine them during 1932.

\* This figure includes the nine suspected cases.

† This figure includes the eight suspected cases.



2. This small epidemic was undoubtedly caused by natives of Uganda visiting relatives living in the Semliki Valley in the Congo where the people are heavily infected with sleeping sickness. A feature of the epidemic is that only one of the cases detected appeared to be ill or in any way inconvenienced by the presence of trypanosomes in his blood and glands and therefore it may be presumed that the virulence of the causative trypanosome is low. Since *G. palpalis* is not common and its distribution is localized in the area where these cases have been found, near Mpondwe in the foothills of Ruwenzori, it is not expected that any serious epidemic will be experienced.

#### *G. TRAPPING OF G. palpalis.*

The European Sleeping Sickness Inspector, Mr. C. W. Chorley, employed in the Lake Victoria—Nile sleeping sickness areas, collaborated with Dr. Carpenter, Specialist Officer, Sleeping Sickness, some years ago in experiments designed to trap the larvæ of *G. palpalis*. Subsequently he carried out several experiments on trapping the adult fly by various means. He has now commenced experimenting with traps of his own design, being greatly assisted by the provision of details of the methods employed by the Tse-tse Research Unit in Tanganyika which were kindly furnished by the Director, Mr. Swynnerton. From the results obtained so far it appears probable that some of the traps designed by Mr. Chorley will be of great practical value. However, before any conclusion can be come to it will be necessary to experiment further and to this end the Agricultural Entomologist is assisting and advising Mr. Chorley. It is proposed to endeavour to clear one island of *G. palpalis* by using a number of traps and if this proves successful, an attempt will be made to clear a suitable area of the foreshore of the lake.

S. W. T. LEE,

*Senior Health Officer.*

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## **APPENDIX V.**

### **Report of the Lady Coryndon Maternity Training School, Namirembe, 1931.**

BY DR. A. R. COOK, C.M.G., O.B.E.

The economic blizzard which swept over the world in 1931 had serious effects on Uganda. At first sight it seems difficult to believe that the lowering of the world price of cotton, as reflected in prices ruling in Liverpool, could have any influence on maternity and child welfare in this Protectorate, but the connecting link is not so recondite as it might appear to be. Cotton is the chief native export from Uganda. A big drop in the price received by the native for his labour tends to discourage him in the cultivation of cotton, and starts a vicious circle which touches every department of life in the country. With a lessened income he cannot buy European luxuries or even necessities as he has been accustomed to do. In turn this diminishes the imports into the Protectorate, and Customs returns contract instead of expanding. In this way the whole revenue of the country has diminished and the budget has had to be balanced by a series of drastic economies. Almost every Government department has suffered and retrenchment has been severe in the Medical Department; medical staff has been cut down, and generally speaking progress slowed.

Our mission work has suffered to an equal or even a larger extent, for however willing, and even anxious, friends may be to help; they can no longer afford the assistance once gladly given.

Under the circumstances our efforts have been directed rather to keeping essential things running than to embark in new work; "strengthening our stakes" rather than "lengthening our cords," but this cannot continue indefinitely without impairing the efficiency of our work. One sign of a healthy life is growth and, *mutatis mutandis*, the same applies to maternity and child welfare work.

Our income in the Maternity Training School depends on three sources—a Government grant-in-aid, gifts from friends in England, and the fees paid in the hospital and country centres. The last-named, though individually small, owing to the volume of the work, amount to a considerable sum in the aggregate. A comparison of the income of this department of the hospital for the last two years will show how severely we have been hit.

Local receipts (M.T.S.).—				1930		1931	
Government grant-in-aid	...	...	...	Shs. 20,200	...	Shs. 20,800	
From native sources	...	...	...	Shs. 70,096	...	Shs. 42,882	

Thus the native sources produced Shs. 27,214 less in 1931 than in 1930. It only remains to add that the gifts from England were almost negligible during 1931.

This contraction of resources has necessitated the curtailment of our building programme and the limitation of the European staff. Miss Budd as Superintendent, aided by Miss Renshaw and Miss Milnes-Walker, has been indefatigable in visiting and inspecting the country centres, but during some months the needs of the general hospital work required the transference of Miss Renshaw there.

#### LADY CORYNDON TRAINING SCHOOL.

Twenty-four students have been in residence during the year, of whom nine passed the Government qualifying examination. While there is still rather a tendency to learn passages and even pages of the text-book by heart, the special stress laid on ante-natal examinations was reflected in improved efficiency in this important subject. For example, pelvic measurements were creditably performed, at the last qualifying examination.

TABLE I.

OUT-PATIENTS CENTRAL INSTITUTION, NAMIREMBE.

		1931		1930		1929
Total out-patient attendances	...	5,609	...	9,076	...	9,908
New patients	...	1,595	...	2,340	...	2,022
Syphilitic patients (latent and active)	...	917	...	1,210	...	1,151
Babies	...	925	...	1,257	...	1,148
Syphilitic percentage of total cases	...	57%	...	52%	...	57%

TABLE II.

IN-PATIENTS IN THE CLINICAL WARDS ATTACHED TO THE TRAINING SCHOOL.

		1931		1930		1929
Admissions during the year	...	739	...	627	...	707
B.B.A. cases admitted	...	42	...	56	...	85
Miscarriages	...	18	...	31	...	21
Babies' deaths	...	37	...	37	...	32
Still-births	...	54	...	67	...	75
Maternal deaths	...	22	...	32	...	33
Total confinements (including B.B.A.)	...	317	...	417	...	436
Living babies discharged	...	253	...	346	...	408

TABLE III.

OPERATIONS DURING 1931 IN THE CENTRAL INSTITUTION.

Caesarean section	...	5	Internal version	...	...	1
(plus one in main hospital)			Miscellaneous	...	...	8
Perforation and cranioclasm	...	9	Retained placenta	...	...	11
Forceps delivery	...	53				

TABLE IV.

CAUSES OF MATERNAL DEATHS IN 1931.

Ruptured uterus	...	8	(Of these six admitted in a dying condition. All had had native medicine).
Obstructed labour	...	10	(Of these five admitted in a dying condition. Nine had had native medicine).
Puerperal sepsis	...	3	(All had had native medicine).
Extreme anæmia	...	1	(Died five minutes after admission).

TABLE V.

CAUSES OF INFANT DEATHS IN THE CENTRAL INSTITUTION, 1931.

Prematurity	...	17	Congenital syphilis	...	2
Feeble from birth	...	13	Laryngeal obstruction	..	1
Septic cord	...	2	(Membranous : Tracheotomy).		
(Both admitted from outside, very ill).			Motherless babe	...	1
Native medicine	...	1	(Admitted when ten days old).		

Of the above 37, 17 were B.B.A. cases, very ill or weakly on admission.



TABLE VI.

				Confine- ments.	Child welfare.	Venereal cases.	Total out- patients.	Still births.	Living children discharged.	Maternal deaths.
Bushenyi	...	...	...	26	211	120	682	1	25	...
Ibanda	...	...	...	23	405	159	1,431	3	21	2
Iganga	...	...	...	44	328	54	539	2	42	1
Jungo	...	...	...	59	326	210	1,950	4	55	...
Kabasanda	...	...	...	74	282	256	1,779	4	70	...
Kabuwoko	...	...	...	15	200	108	770	...	16	...
Kako	...	...	...	56	197	407	2,859	4	54	...
Kapeka	...	...	...	48	427	174	1,892	...	50	...
Kasaka	...	...	...	66	240	252	2,082	1	65	...
Kiboga	...	...	...	50	165	74	1,715	3	50	...
Kikoma	...	...	...	289	330	238	2,154	25	268	...
Kira	...	...	...	66	318	201	2,063	5	62	1
Lutete	...	...	...	49	369	306	2,512	3	48	...
Luwero	...	...	...	65	389	278	1,640	...	66	...
Mbarara	...	...	...	52	180	299	3,516	5	47	1
Mityana	...	...	...	54	680	277	2,445	3	51	...
Mukono	...	...	...	143	526	448	5,510	9	134	...
Nakifuma	...	...	...	108	554	316	3,465	10	99	...
Namulonge	...	...	...	62	353	88	1,709	4	58	...
Ndeje	...	...	...	189	1,360	549	9,417	19	179	2
Ngogwe	...	...	...	120	625	325	3,611	7	116	...
Nabumale	...	...	...	...	Returns not		received.	...	...	...
Kumi	...	...	...	...	Returns not		received.	...	...	...
Mengo Hospital	...	...	...	45	...	...	...	3	42	...
Toro Hospital	...	...	...	40	...	...	...	12	28	...
Rubona	...	...	...	9	...	...	...	2	8	1
Kahangi	...	...	...	3	...	...	...	...	3	...
TOTALS :—1931				1,755	8,465	5,139	53,741	129	1,657	8
1930				1,827	8,983	6,279	64,230	137	1,676	6
1929				1,807	9,248	8,120	85,066	113	1,696	6

The centre at Luwero was accidentally burnt down on February 8th when the villagers were lighting fires to drive away the locusts. The midwives' house was turned into a temporary "zaliro" but in spite of the small accommodation the numbers seen during the year were very satisfactory.

The large number of those who availed themselves of the help of the centre at Kabasanda shows a praiseworthy recognition of the advantages of maternity and child welfare work in this predominantly Mohammedan saza.

The three Ankole centres also did well under the fostering control of the local Supervisor, Miss E. M. Brewer. Nakifuma, on the other hand has declined greatly during the last two years. This is, no doubt, owing to the removal of the exceptionally gifted and senior midwife, Agiri Uja, who was needed for other work, for it must never be forgotten that the success of the work in any given area depends very largely on the personality of the midwife in charge. All have to pass the Government qualifying examination, but that is only the portal into the profession—kindliness, integrity, devotion to duty, and a high Christian character are all needed in addition. This same lesson is emphasized in the centre at Kabuwoko, in Buddu, which was closed, perhaps prematurely, during the year as so few came for confinement there. This centre was started at the earnest request of the natives themselves and the Superintendent of the Maternity Training School, Miss Budd, had occasion subsequently to think that its want of success was due largely to the unsatisfactory conduct of the midwife in charge.

The event of the year was the opening of the large Lady Stanley Women's Hospital at Mukono. This absorbed the old and very successful maternity and child welfare centre at that place, where in addition for over twenty years Mengo Hospital had supervised a large branch dispensary.

The new buildings cost just over £2,000 exclusive of equipment, and were erected under the supervision of Mrs. A. R. Cook. The entire cost has been defrayed by Sir Henry Wellcome, LL.D. so well known for his interest in Africa, and he asked that it should be called after the wife of his great friend, Henry Stanley, the celebrated African Explorer. Considering the immense share that Stanley took in the opening up of Uganda it is fitting that a memorial should be erected to his name. Sir Henry Wellcome's munificent contributions to Medical Science in London, Egypt, Khartoum, etc., are of course well known, and it is not the first time he has helped us in Uganda, for in 1905 he built for us the Wellcome Dispensary at Mengo Hospital.

Through the kindness of His Excellency Sir William Gowers, our illustrious visitor to the Protectorate, H.R.H. Princess Alice, graciously consented to open the new hospital on February 10th. The Royal Party included the Earl of Athlone and Lady May Cambridge. Princess Alice is herself expert in child welfare work and coming as she did from South Africa, where, as wife of the Governor General, she had exceptional facilities for studying the work among African women and children, her kindly words were much appreciated. Referring to the work done by the Missionary Societies, both Protestant and Roman Catholic, she said: "The conditions with which I am really conversant are those in South Africa, which are very different indeed, for in matters of native maternity and child welfare work we are alas, very far behind Uganda."



Dr. Margaret Cook is the Medical Officer of the new institution.

On March 18th, at the invitation of Miss Brewer, the local Supervisor for Ankole, Mrs. A. R. Cook opened the new centre at Ibanda, in the north of that country. The zaliro is hard by the great heap of stones erected by the Banyankole to commemorate the murder of Mr. Galt (a former administrative officer of the Government) in 1905, and the anxiety of the chiefs and peasants to help in building the zaliro was in pleasant contrast to the lawlessness then rampant in the district.

Speaking generally, people are much more willing to go to the zaliros than they used to be. Thirteen years' steady work is bearing fruit and the existence of many thousands of healthy and happy children in Uganda to-day has convinced even the least intelligent mothers that there is "something in it." Some of the more enlightened chiefs ignore the boundary between persuasion and compulsion and an admirable circular by Mr. Forsyth Thompson, the present District Commissioner at Kampala, serves as a model of how to help them. In it he says " . . . People must not be *compelled* to go to the zaliros. But Chiefs and other people of education and intelligence must be more active than ever in teaching their people that:—

(i) Antenatal treatment ensures healthy babies, free from inherited venereal diseases.

(ii) That in the zaliros the babies have a very much greater chance of being born alive and healthy.

(iii) That native medicines are *always* extremely dangerous and by hurrying on the birth often kill the mother besides the child. Time and time again a child is killed by native medicines when it would have been born perfectly healthy if left at the zaliro.

(iv) That the dirty conditions under which most children are born in the kyalos do not give either the child or the mother a fair chance.

(v) That although it may cost Shs. 5 (or Shs. 10 with ante-natal treatment) for a baby to be born in a zaliro, surely a healthy baby's life is worth this small amount of money.

(vi) That if parents are very poor the zaliro will usually waive the charge. The zaliros are for the good of the people; they are not trading concerns to make money, though a charge is naturally made to get back some of the expenses."

At the Mukono centre, where the new Saza Chief is a specially enlightened man and has been successful in persuading the women to come in a few days before the date of their confinement so that they were not working up to the last, the condition of the new-born infants was quite noticeably better.

While on leave during the year, Dr. and Mrs. A. R. Cook went as delegates to the International Conference on African Children held in Geneva in June. Maternity and child welfare work figured largely in the programme and it was very interesting to see what a large common denominator underlay welfare work throughout the whole vast African continent, from Egypt in the north, to the Union of South Africa in the south, and from the Gold Coast and Nigeria on the west, to Uganda, Kenya, and Portuguese East Africa on the east. The outstanding feature of the week's discussion was that Uganda was fully abreast of any other British Dependency in Africa in the treatment of the native women and children, and in advance of most in maternity and child welfare work.

A little later in the year, the same two delegates went to the Imperial Social Hygiene Congress, held at the British Medical Association House. There was a large gathering of experts and many papers dealt directly with similar problems to those we have to face in Uganda in maternity and child welfare work. But it was not by the imposing array of celebrated names, such as Colonel Harrison, Lord Passfield, Mr. Amery, Princess Radziwill, etc., nor by the erudition displayed, that the deepest impression was made, but by the atmosphere of kindly good-will, and the evident interest felt and expressed by many delegates from British colonies and protectorates for our own hygienic and social work in Uganda. The distinction between Government official, missionary and traveller was quite lost and our common anxieties and triumphs alone envisaged.

In conclusion, we have once again to thank most warmly the Administrative officers of His Majesty's Government. Without their ready aid and sympathetic interest, the work if not impossible, would have been rendered infinitely harder. To His Excellency Sir William Gowers, K.C.M.G., as noted elsewhere, we owe the opening of the Lady Stanley Hospital and also the Nurses' Training College; but quite apart from this, his steady support and the active interest he has shown in the work have greatly heartened the workers. Major G. J. Keane, C.M.G., D.S.O., has been, as in other years, most helpful and we have profited not a little by his advice and co-operation.

The approaching retirement of Dr. H. B. Owen, D.S.O., the Medical Superintendent of Mulago Hospital, will be felt not less as a public than as a personal loss. As chairman of our committee and also of the Government Board of Examiners, his ready courtesy and untiring industry will be sorely missed. He has always been willing in the midst of a very busy life to put aside his own work and give time and attention to our problems.

Mr. G. L. Maitland Warne, at Mbarara, has worked overtime to render help in the building of the new permanent centre there, opened last month, and it is with deep regret that we heard of his recent sad air accident. We can only hope that his return to this country will be delayed only and not prevented.



In spite of the appointment of four new members of our committee as direct representatives from the Eastern Province, maternity and child welfare work has not gone forward there as we hoped. Kamoge centre, so eagerly desired by the natives, has not come into being and indeed seems further off than ever. Lira has been decided on as an approved centre but funds are still lacking for its erection. Nabumale and Kumi centres have actually been working but the work in each place has been neither large nor continuous, perhaps owing to changes in the staff. With the new year there is every hope of a real improvement.

#### MENGO HOSPITAL TRAINING SCHOOL FOR NURSES, NDEJE.

On February 28th, 1931, His Excellency Sir William Gowers opened the Training College for nurses at Ndeje, five miles beyond Bombo. Though formally opened only then, work had been going on there for a year and the erection of the necessary buildings had been a labour of love occupying Mrs. A. R. Cook for the previous three-and-a-half years. They consist of a hospital for clinical teaching containing 60 beds and cots, for men, women and children, an operating theatre complete with modern equipment, a labour ward, dispensary and the usual offices. There is a spacious lecture room, girls' dormitory, a staff house for the English nurses, and, last but not least, a graceful and commodious college chapel in the centre of the quadrangle. The buildings themselves are distempered with pure white, the roof and stair timbers being black, and window-frames, shutters and tanks a cool shade of green.

Dr. Barbara Grinling is Superintendent and has worked there through the year, assisted at first by two nurses and later on, when the exigency of the work compelled the withdrawal of these two latter to the main hospital, by a Senior Nursing Sister. It is not too much to say that the success of the institution will depend on the posting there of a properly qualified sister tutor. The Medical Committee of the Church Missionary Society have pledged themselves to find us such a person. Another move forward was made by appointing Dr. A. T. Schofield as Surgeon to the Institution.

The number of students in residence has varied during the year from seventeen to thirteen. A course of three months at a preliminary training school at Namirembe eliminates the more unsuitable of the candidates.

The ultimate goal is the State registration of nurses, comparable to the State registration of midwives. A large number of native female *sick attendants* have been trained at various hospitals, but the need for *fully qualified native nurses* is bound to arise; in the opinion of many of us it has arisen already, and a one-portal entrance into the profession, conferring on it dignity and status, should be envisaged. The difficulties may seem formidable, but difficulties are meant to be overcome and many of them vanish on being resolutely faced. The question of staff is essential. A nursing sister may be excellent in her work but quite unsuited to train others. A properly qualified sister tutor is a *sine-qua-non*.

In conclusion, an excerpt from a recently published book of great value, "The Remaking of Men in Africa," by Messrs. Oldham and Gibson, may be given, as it sums up the inner meaning of our educational work:—

"The lines of division between secular and sacred which have grown up in the West have little meaning for the African. . . . The tendency of a Government department of education is to concern itself chiefly with what goes on within the school walls. The outlook of Directors of Education is often much wider than this and they think of education in terms of the advancement of the whole community. Missions . . . may help to humanise, enrich and spiritualize the whole of African rural education. The true nature of the religious view is to see life in its wholeness, and it is the opportunity and mission of the Church to help to keep alive in African education the ideal of the redemption of the whole of life for the service of God and of men."

ALBERT R. COOK.

#### Staff.

##### LADY CORYNDON MATERNITY TRAINING SCHOOL.

Lady Superintendent	...	...	Miss M. S. Budd.
Nursing Sisters	...	...	Miss C. Renshaw.
			Miss W. A. Milnes-Walker.
Lecturer and Senior Medical Officer		...	Dr. A. R. Cook, C.M.G., O.B.E., etc.
Medical Officers	...	...	Dr. R. Y. Stones, M.C.
			Dr. A. T. Schofield.
			Dr. Margaret B. Cook.

##### NURSES' TRAINING COLLEGE, NDEJE.

Medical Superintendent	...	...	Dr. Barbara M. Grinling.
Nursing Sister	...	...	Miss M. J. Norris.
Visiting Surgeon	...	...	Dr. A. T. Schofield.

## Report of Nsambya Maternity Training School, 1931.

BY THE REV. MOTHER M. KEVIN, M.B.E.

### CENTRAL INSTITUTION, NSAMBYA :—

Number of students in training during the year	...	...	...	28
Number who passed Government qualifying examination	...	...	...	8
Number of patients in the clinical wards attached to the junior and senior schools :—				
Confinements	...	...	...	84
Still born	...	...	...	13
Miscarriages	...	...	...	7
Living children discharged	...	...	...	69
Maternal deaths	...	...	...	6
Cæsarian sections	...	...	...	3
Forceps	...	...	...	5
Total out-patients : Ante-natal	...	...	...	1,177
Child Welfare	...	...	...	115

### COUNTY CENTRES :—

		<i>Confinements.</i>		<i>Ante-natal Clinic.</i>		<i>Child Welfare Clinic.</i>
Villa Maria	...	183	...	490	...	73
Koki	...	61	...	91	...	10
Nkokonjeru	...	124	...	1,318	...	239
Kisubi	...	98	...	210	...	42
Nagalama	...	120	...	92	...	23
Nagongera	...	38	...	94	...	176
Rubaga	...	22	...	165	...	15
Nyondo	...	12	...	143	...	10
Budini	...	9	...	10	...	6
Budaka	...	45	...	169	...	96
Kamuli	...	52	...	67	...	51
Gayaza	...	49	...	161	...	95
Nyenga	...	66	...	397	...	20
Mitala Maria	...	175	...	222	...	45
Bikira	...	82	...	244	...	30
Butiti	...	15	...	2,093	...	50
Katende	...	70	...	130	...	20
Lwala	...	20	...	211	...	—
TOTALS	...	1,241	...	6,307	...	1,001

### THE SCHOOL.

During the year there have been 28 students in training at the Nsambya Maternity Training School. We still receive very many applications and although some have still to be put off on account of insufficient education and sent to the elementary school for a longer or shorter period before beginning their regular training, we are now reaping the benefit of the progress of education in the schools of Uganda and are able to admit many very intelligent girls who have been well taught in the schools and are able to write and read easily. They show great aptitude for the work and the study of midwifery, and display real devotedness and zeal in the exercise of their duties. Some of those who have completed their training this year and have been a few months in the county centres have been described by the Superiors of the Missions as extremely dutiful, devoted and methodical, the ideal of a native midwife.

Altogether this year eight students have taken the examination; all passed in the theoretical and two have yet to be re-examined shortly, one in pulses and one in clinical midwifery. It is observed that the present students show much greater ability in applying the theoretical knowledge to the practical, and that their devotedness and very evident interest in their work win the love and confidence of the natives, and the women come frequently to ask advice and consult with the midwives in the village centres, thus obtaining invaluable help which they also pass on to their neighbours and acquaintances.

*Native Medicine.*—It is very noticeable at Nsambya and several other large centres in Buganda that the practice of drinking native medicine is very much diminished. The women are certainly waking up to the realization of the evil results obtained from this medicine as well as to the benefits of the regular courses of medicine and injections given at the ante-natal clinics. In the less civilized parts of the country, however, it is observed that nearly all the women drink native medicine which is the cause of many miscarriages.



*Syphilis.*—Out of 300 women attending the Nsambya centre 75 per cent. of these had syphilis and of the 71 infants born alive five died at or shortly after birth from syphilis, and nine still-births were due to the same cause. These percentages agree very well with those in the other centres. However, the benefit of the ante-natal clinics may be observed from the fact that out of the 85 confinements, in spite of 75 per cent. of the mothers having syphilis, 69 healthy children were discharged due to the regular taking of medicine and injections, whereas the syphilitic children that did not survive were those of women who came in as emergencies for their confinement, or had only attended the clinic two or three times. Many mothers who attend the ante-natal clinic do not come into the hospital for their confinement.

*Child Welfare.*—The mothers are taking an increasing interest in the progress of their infants and some bring them regularly to be weighed, if ill they bring them at once for treatment. Many women who have attended the ante-natal clinic and yet failed to come in for their confinement bring their babies when born to be weighed and examined.

*Out-Centres.*—There has been a falling off in attendances in some of the centres owing to the shortage of money among the natives, but considering the poverty of the people and the great distances which many of them have to come, the numbers have been good and the results satisfactory. In most places the Chiefs are slow to encourage the people to come in, but in a few cases where they have exerted their influence, very good results have been obtained.

*New Centres.*—This year new centres have been established at Gulu, Koki, Budaka and Namugongo. Gulu is only just opened and Namugongo is built but will not be opened until the remainder of the grant can be obtained. Koki has done very well indeed during the first year especially taking into consideration the desert nature of the country and the distances and little facility in travelling. The proper building is not quite completed. Budaka centre is very well attended. It has accommodation for eight patients including two private wards. It is commodious and well built, consisting of wattle and daub buildings surrounded by a neat fence. There are good living houses for the nurse and sufficient out-houses. Syphilis is very rampant in this part and native medicine much taken with the usual disastrous results. It is, however, anticipated that this state of affairs will greatly improve as the centre begins to exert a wider influence. The Superior of the Mission is very zealous in the interests of the centre and is most anxious that further pressure be exercised by the Chiefs.

It is hoped that a new centre will shortly be established at Namilyango where the Sisters have recently opened up.

Our three midwives working in the Government hospitals at Mulago, Mbale and Masaka have given great satisfaction, and we have been asked to supply another for the hospital at Jinja, which we hope to do next year.

Finally, although there are not very many striking details to record in this report, we may confidently assert that the maternity centres have been steadily progressing even in those parts of the country where the progress has been slow and we have great hopes for the successful and fruitful continuance of this great work so beneficial to the people of this land.

MOTHER M. KEVIN,

*Lady Superintendent.*

## RETURNS.

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### TABLE IA.—Sanctioned Establishment, 1931.

The establishment for 1931, as sanctioned in the Estimates, was as follows:—

#### ADMINISTRATIVE DIVISION.

Director of Medical and Sanitary Services.	1 European Storekeeper.
Deputy Director of Medical Service.	1 Asiatic Assistant Storekeeper.
Confidential Clerk.	18 Asiatic Clerks.
Office Superintendent.	3 African Clerks.
1 European Clerk.	

#### SPECIAL APPOINTMENTS.

1 Resident Surgical Officer.	1 Dental Surgeon.
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#### MEDICAL DIVISION—GENERAL.

4 Senior Medical Officers.	1 Asiatic Civil Surgeon.
36 Medical Officers.	2 Senior Sub-Assistant Surgeons.
1 Pharmacist.	26 Sub-Assistant Surgeons.
2 European Hospital Superintendents.	1 Asiatic Assistant Pharmacist.
3 European Assistant Superintendents and Dispensers.	2 Asiatic Cooks for European Hospitals.
	2 Asiatic Cooks for Asiatic Hospitals.

#### NURSING STAFF.

2 Senior Nursing Sisters.	3 Asiatic Nurses.
1 Lady Steward.	2 Asiatic Probationers.
23 Nursing Sisters.	

#### SANITATION DIVISION.

1 Deputy Director of Sanitary Service.	2 Medical Officers, Sleeping Sickness.
2 Senior Health Officers.	4 European Sanitary Inspectors.
2 Health Officers.	2 Asiatic Sanitary Inspectors.

#### LABORATORIES DIVISION.

1 Deputy Director of Laboratory Service.	1 Analytical Chemist.
1 Senior Bacteriologist.	5 European Laboratory Assistants.
2 Assistant Bacteriologists.	1 Laboratory Apprentice (European).
1 Malaria Officer.	1 European Clerk.
1 Medical Entomologist.	

#### MEDICAL SCHOOL, MULAGO.

1 Medical Superintendent and Principal, Medical School.	1 Medical Officer.
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#### AFRICAN STAFF.

There is a varying number of African staff, including an African teacher at Mulago School, senior medical assistants, medical assistants, attendants, learners, plague inspectors, vaccinators, gland examiners for sleeping sickness, clerks, interpreters, headmen, cooks, native nurses and learners, and also menial staff at all hospitals.



TABLE IB.—**Staff.***EUROPEANS.*

## ADMINISTRATIVE DIVISION.

<i>Rank of Appointment.</i>		<i>Name and Qualifications.</i>
Director of Medical and Sanitary Services	...	Major G. J. Keane, C.M.G., D.S.O., R.A.M.C., R. of O., M.B., ch.B., M.D., D.P.H., D.T.M. (L'pool).
Deputy Director of Medical Service	...	W. L. Webb, M.R.C.S. (Eng.), L.R.C.P. (Lond.), M.B., B.S. (Lond.), D.P.H., R.C.P.S.
Deputy Director of Sanitary Service	...	G. R. H. Chell, M.R.C.S., L.R.C.P. (Lond.), D.P.H. (Camb.).
Confidential Clerk	...	H. Flint.
Office Superintendent	...	H. T. Bott.
Medical Storekeeper	...	P. J. L. Waters.
European Clerk	...	A. J. Rayney.

## MEDICAL DIVISION—GENERAL.

Resident Surgical Officer	...	C. H. Marshall, F.R.C.S. (Edin.), M.B., B.S. (Lond.), M.R.C.S. (Eng.), L.R.C.P. (Lond.).
Consulting Physician	...	Sir A. R. Cook, C.M.G., O.B.E., B.A. (Cantab.), B.Sc., M.B., M.D. (Lond.).
Senior Medical Officer	...	Major R. J. A. Macmillan, D.S.O., T.D., M.B., ch.B. (Edin.), D.T.M. (L'pool).
Do	...	W. L. Peacock, M.B., ch.B. (Glas.), D.O.M.S.
Do	...	C. R. Wallace, L., L.M., R.C.P. (Irel.), L., L.M., R.C.S. (Irel.).
Do	...	E. A. C. Langton, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
Dental Surgeon	...	G. S. Bateman, L.D.S.R.C.S. (Eng.).
Medical Officer	...	N. Bligh-Peacock, B.Sc., M.B., ch.B. (Glas.), D.T.M. & H. (L'pool.).
Do	...	J. P. Mitchell, O.B.E., M.D., ch.B. (Aberd.).
Do	...	A. J. Boase, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
Do	...	L. D. Dennard, B.A., M.B., B.Ch., B.A.O. (Dub.).
Do	...	J. D. Reynolds, M.B., ch.B., B.A.O. (Belfast).
Do	...	S. Forrest, M.A., M.B., ch.B. (Aberd.).
Do	...	G. Louw, M.B., ch.B. (Edin.), D.T.M. & H. (Lond.).
Do	...	J. M. Gray, L., L.M., R.C.P. (Irel.), L., L.M., R.C.S. (Irel.), D.P.H. (Dub.).
Do	...	A. H. Maclean, M.B., ch.B. (Glas.).
Do	...	E. N. Cook, M.B., B.S. (Lond.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.T.M. & H. (Lond.).
Do	...	Miss M. Holliday, L., L.M., R.C.P. (Irel.), L., L.M., R.C.S. (Irel.), F.R.C.S. (Irel.), D.T.M. & H. (Lond.).
Do	...	A. A. Battson, M.R.C.S. (Eng.), L.R.C.P. (Lond.), M.B., B.S. (Lond.).
Do	...	D. Plum, M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.T.M. (L'pool.).
Do	...	M. D. Macqueen, M.B., ch.B. (Edin.).
Do	...	C. E. Roberts, M.R.C.S. (Eng.), L.R.C.P. (Lond.), B.M., B.Ch. (Oxon).
Do	...	J. J. Mitchell, M.B., ch.B. (Glas.).
Do	...	R. E. Barrett, M.R.C.S. (Eng.), L.R.C.P. (Lond.), M.B., B.S. (Lond.).
Do	...	A. F. Brown, M.B., ch.B. (Edin.).
Do	...	R. V. Bowles, M.R.C.S. (Eng.), L.R.C.P. (Lond.), M.B., B.S. (Lond.).
Do	...	J. S. Brown, M.B., ch.B. (Edin.), D.T.M. & H. (Lond.).
Do	...	J. McDaniel, M.B., B.Ch., B.A.O. (Belfast).
Do	...	A. McK. Fleming, M.C., M.R.C.S. (Eng.), L.R.C.P. (Lond.), M.B., B.S. (Lond.), D.T.M. & H. (Lond.).
Do	...	(a) J. C. Caldwell, M.B., C.M. (Edin.).
Do	...	J. J. Black, M.B., ch.B. (Glas.).
Do	...	G. A. Talwrn-Jones, M.B., ch.B. (L'pool.), D.T.M. (L'pool.).
Do	...	P. J. Cowin, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
Do	...	D. Murray, M.B., ch.B. (St. And.).
Do	...	E. Burton, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
Do	...	G. Holmes, M.B., B.S. (Durh.).
Do	...	J. R. C. Spicer, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
Do	...	C. R. C. Rainsford, M.B., B.Ch. (Belf.).
Do	...	A. G. Mackay, M.B., ch.B. (Edin.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.T.M. & H. (L'pool.).
Do	...	A. J. Garde, B.A., M.B., B.Ch., B.A.O. (Dublin), D.T.M. & H. (Eng.).
Do	...	H. G. Floyd, M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.T.M. & H. (Eng.).
Do	...	W. A. Wilson, M.R.C.S. (Eng.), L.R.C.P. (Lond.), M.B., B.S. (Lond.).
Do	...	A. H. Mowat, M.B., ch.B. (Edin.), F.R.C.S. (Edin.), D.T.M. & H. (Edin.).
Do	...	L. J. A. Loewenthal, M.B., ch.B., (L'pool.), D.T.M. & H. (L'pool.).
Do	...	A. W. Williams, B.A., M.R.C.S., L.R.C.P. (Camb.).
Do	...	H. M. Twining, M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.P.H., R.C.P.S. (Eng.).

(a) Appointment terminated on September 1st, 1931.

TABLE IB.—*continued.*MEDICAL DIVISION—GENERAL—*continued.*

<i>Rank of Appointment.</i>	<i>Name and Qualifications.</i>
Senior Nursing Sister	... (b) Miss N. M. Adams.
Do	... Miss R. A. Bagot.
Lady Steward	... Miss E. R. Brittain.
Nursing Sister	... Miss D. M. Ivers.
Do	... Miss I. Baillie, A.R.R.C.
Do	... Miss E. A. McGill.
Do	... (c) Miss J. F. Sneddon.
Do	... Miss G. R. Ibbs.
Do	... Miss D. B. Reeves.
Do	... Miss A. C. Miller.
Do	... Miss A. Thompson.
Do	... Miss E. A. Frewin.
Do	... Miss G. E. Holmes.
Do	... Miss M. Senior.
Do	... Miss B. M. Gill.
Do	... Miss B. B. D. Edwards.
Do	... (d) Miss F. M. Wills.
Do	... Miss L. Smith.
Do	... Miss D. S. Coward.
Do	... Mrs. M. E. McCaw.
Do	... Miss G. E. Merriman.
Do	... (e) Miss E. M. Christian.
Do	... Miss M. M. Francis.
Do	... Miss E. Berd.
Do	... Miss E. G. S. Horne.
Pharmacist	... C. Chorley, M.P.S.
Superintendent of Native Hospitals	... E. S. Smout.
Do	... F. G. Caldwell.
Assistant Superintendent and Dispenser	... W. O. Tindall.
Do	... C. M. Day.

## SANITATION DIVISION.

Senior Health Officer	... H. R. Neilson, M.B., ch.B., D.P.H. (Aberd.).
Do	... S. W. T. Lee, M.B., B.Ch., B.A.O., D.P.H. (Belfast), D.T.M. (L'pool.).
Health Officer	... J. C. St. G. Earl, B.A., M.B., B.Ch. (Dub.), B.A.O., D.T.M. & H. (L'pool.).
Do	... R. S. McElroy, M.B., B.Ch., B.A.O., D.P.H. (Dub.), D.T.M. (L'pool.).
Do	... T. H. Nolan, M.B., B.Ch., B.A.O. (Irel.).
Sanitary Inspector	... R. J. Wilkinson.
Do	... G. Gillanders, A.R.S.I., M.I.H.
Do	... R. C. D. Hooper, M.R.SAN.I.
Do	... W. M. Carnie.

## LABORATORIES DIVISION.

Deputy Director of Laboratory Service	... Vacant.
Senior Bacteriologist	... Mrs. M. Turton, M.D., ch.B. (Edin.), D.P.H., R.C.P.S. (Eng.), D.T.M. & H. (Lond.).
Assistant Bacteriologist	... N. J. Willans, M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.T.M. & H. (Lond.).
Do	... R. S. F. Hennessey, B.A., M.B., B.Ch., B.A.O. (Dub.), D.T.M. & H. (Lond.).
Malaria Officer	... N. C. Macleod, M.B., ch.B. (Glas.), D.P.H. (Glas.).
Medical Entomologist	... G. H. E. Hopkins, M.A. (Camb.), F.E.S.
Analytical Chemist	... E. C. Haddon, A.I.C.
Laboratory Assistant	... J. Stewart.
Do	... E. G. Gibbins.
Do	... S. G. Laws.
Do	... (f) A. E. Baker.
Do	... W. G. Addington.
Laboratory Apprentice	... T. W. Chorley.

## MEDICAL SCHOOL, MULAGO.

Medical Superintendent and Principal, Medical School, Mulago	H. B. Owen, O.B.E., D.S.O., M.B., B.Ch. (Camb.), D.T.M. & H. (Cantab.), D.O.M.S.
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(b) Retired October 20th, 1931.

(d) Appointment terminated September 16th, 1931.

(c) Appointment terminated February 13th, 1931.

(e) Resigned January 26th, 1931.

(f) Retired October 7th, 1931.



TABLE IB.—*continued.*

## ASIATICS.

## ADMINISTRATIVE DIVISION.

<i>Rank.</i>	<i>Name.</i>	<i>Rank.</i>	<i>Name.</i>
HEADQUARTERS.			
Asiatic Assistant Storekeeper ...	D'Souza, M. P. D.	3rd Grade Clerk ...	Fernandes, J. A.
1st Grade Clerk ...	Sohan Singh Sandhu.	Do ...	Kidar Nath
Do ...	Moniz, C.	Do ...	Dias, H. R. A.
Do ...	Da Lima, U. B.	Do ...	Mascarenhas, P.
Do ...	Gunewardene, D. J.	Do ...	D'Souza, E. M.
2nd Grade Clerk ...	Martyris, S. X.	Do ...	Lobo, G. S.
Do ...	Gomes, S. M.	4th Grade Clerk ...	(a) D'Souza, B.

## MEDICAL DIVISION—GENERAL.

<i>Rank.</i>	<i>Name.</i>	<i>Rank.</i>	<i>Name.</i>
Civil Surgeon ...	Achhru Ram, Rai Sahib	Sub-Assistant Surgeon ...	Mohammed Faqir.
Senior Sub-Assistant Surgeon ...	Mahindra, S. R.	Do ...	Bali, M. L.
Do ...	Raja, K. J.	Do ...	Kapur, K. C.
Sub-Assistant Surgeon ...	Ahmed Din.	Do ...	(b) Nawaz Ahmedi, M. S.
Do ...	Rao, A. V. S.	Do ...	Ahmedi, A. D.
Do ...	Faqir Chand.	Do ...	Bhalla, A. N.
Do ...	Karam Dad.	Do ...	Cardozo, L. J.
Do ...	Menon, P. K. K.	Do ...	Oliveria, C. A. de.
Do ...	Nur Mohamed.	Do ...	Almeida, D. C.
Do ...	Ghulam Haider.	Asiatic Assistant Pharmacist	D'Mello, A.
Do ...	Gopal, B.	Asiatic Nurse ...	Mrs. A. S. Colaco.
Do ...	Pandit, V. B.	Do ...	Miss A. de Souza.
Do ...	Barkat Singh.	Probationer ...	Miss M. J. R. Fernandes.
Do ...	Achhar Singh.	2nd Grade Clerk ...	D'Souza, J. C.
Do ...	Sohi, U. R.	Do ...	D'Mello, F. X.
Do ...	Fernandes, E. F. X.	Do ...	Sant Singh.
Do ...	Prashar, F. C.	Do ...	Seneratne, B. S.
Do ...	Laroya, L. R.	3rd Grade Clerk ...	D'Souza, J. C. F.
Do ...	Pindi Das.	Sanitary Inspector ...	Wazir Singh.
Do ...	Dhirat Ram.	Do ...	Hans Raj.

(a) Appointment terminated September 1st, 1931.

(b) Appointment terminated August 14th, 1931.

TABLE II.

**Actual Expenditure for the Year.**

						£	shs.	cts.
PERSONAL EMOLUMENTS	...	...	...	...	...	97,838	5	77
OTHER CHARGES :—								
Medical, surgical and dental stores	...	...	...	...	...	19,515	13	84
Renewals of furniture and equipment of hospitals	...	...	...	...	...	3,321	12	37
Upkeep of European and Asiatic hospitals	...	...	...	...	...	1,449	3	09
Upkeep of native hospitals	...	...	...	...	...	7,095	16	66
Upkeep of Lunatic Asylum	...	...	...	...	...	701	5	82
Sanitation Division	...	...	...	...	...	3,292	6	39
Laboratories Division	...	...	...	...	...	1,081	14	88
Miscellaneous Services (including travelling and motor bicycle allowances, internal transport, water charges, courses of instruction to Medical Officers, telephone rentals, etc.)	...	...	...	...	...	22,232	4	02
						£156,528	2	84
MEDICAL EDUCATION—MEDICAL SCHOOL, MULAGO.—								
Personal emoluments	...	...	...	...	...	2,402	0	44
Other charges	...	...	...	...	...	249	9	63
						£2,651	10	07
SPECIAL EXPENDITURE.—								
Human Trypanosomiasis Institute	...	...	...	...	...	£3,958	5	11
SPECIAL EXPENDITURE.—								
Fire fighting appliances	...	...	...	...	...	190	16	03
Steam sterilizer and accessories	...	...	...	...	...	286	9	39
						£477	5	42
GRANTS TO MISSIONS :—								
Contributions to Lady Coryndon Maternity School and grants to missions for maintenance of midwifery centres and midwives	...	...	...	...	...	2,000	0	00
Medical grants to mission hospitals	...	...	...	...	...	50	0	00
Grants to Church Missionary Society for native training	...	...	...	...	...	250	0	00
Leprosy relief measures	...	...	...	...	...	1,000	0	00
						£3,300	0	00

**Revenue.**

The total amount of revenue collected as hospital fees, sales of medicines and surgical stores, registration fees and reimbursements on account of medical services was as follows :—

						£	shs.	cts.
Hospital fees, sales of medicines and registration fees	...	...	...	...	...	10,016	0	45
Reimbursements from Kenya and Uganda Railways and Harbours on account of medical and sanitary services	...	...	...	...	...	1,475	15	00
Contributions from Lukikos towards cost of medical stores for sub-dispensaries	...	...	...	...	...	5,121	0	00
						£16,612	15	45

TABLE III.

**Return of Statistics of Population.**

The only statistics available are embodied in the Blue Book.

TABLE IV.

**Meteorological Return.**

All available information under this head is embodied in the Blue Book.



TABLE V.

## Return of Diseases and Deaths (In-Patients) for the Year 1931.

D I S E A S E S .					Remain- ing in Hospital at end of 1930.	Yearly Admissions.	Total Cases Treated	Total Deaths.	Remain- ing in Hospital at end of 1931.
<b>I. EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES.</b>									
1.	Enteric Group—								
	(a)	Typhoid Fever	...	...	3	58	61	13	2
	(b)	Paratyphoid A	...	...	—	1	1	—	—
	(c)	Paratyphoid B	...	...	—	3	3	1	—
	(d)	Type not defined	...	...	—	2	2	—	—
2.	Typhus ...				—	—	—	—	—
3.	Relapsing Fever				7	210	217	12	11
4.	Undulant Fever				—	—	—	—	—
5.	Malaria—								
	(a)	Tertian	...	...	4	278	282	4	3
	(b)	Quartan	...	...	2	67	69	1	4
	(c)	Aestivo-autumnal	...	...	13	1,560	1,573	55	29
	(d)	Clinical	...	...	20	1,137	1,157	17	18
	(e)	Mixed Infections	...	...	1	13	14	3	2
	(f)	Cachexia	...	...	—	4	4	1	1
	(g)	Blackwater	...	...	—	34	34	8	—
6.	Smallpox				—	—	—	—	—
	Alastrim				—	—	—	—	—
7.	Measles				4	113	117	—	—
8.	Scarlet Fever				—	—	—	—	—
9.	Whooping Cough				1	51	52	4	1
10.	Diphtheria				—	1	1	1	—
11.	Influenza				2	251	253	4	45
12.	Miliary Fever				—	—	—	—	—
13.	Mumps				—	2	2	—	—
14.	Cholera				—	—	—	—	—
15.	Epidemic Diarrhoea				—	—	—	—	—
16.	Dysentery—								
	(a)	Amoebic	...	...	1	121	122	12	4
	(b)	Bacillary	...	...	4	230	234	15	1
	(c)	Undefined or due to other causes	...	...	3	153	156	10	2
17.	Plague—								
	(a)	Bubonic	...	...	—	9	9	7	—
	(b)	Pneumonic	...	...	—	1	1	—	—
	(c)	Septicæmic	...	...	—	—	—	—	—
	(d)	Undefined	...	...	—	12	12	12	—
18.	Yellow Fever				—	—	—	—	—
19.	Spirochaetosis ictero-hæmorrhagica				—	—	—	—	—
20.	Leprosy				39	113	152	3	13
21.	Erysipelas				—	7	7	3	—
22.	Acute Poliomyelitis				—	—	—	—	—
23.	Encephalitis Lethargica				—	4	4	—	—
24.	Epidemic Cerebro-Spinal Fever				—	32	32	22	—
25.	Other Epidemic Diseases—								
	(a)	Rubeola (German Measles)	...	...	—	8	8	1	—
	(b)	Varicella (Chicken-pox)	...	...	15	243	258	—	4
	(c)	Kala-azar	...	...	—	—	—	—	—
	(d)	Phlebotomus Fever	...	...	—	—	—	—	—
	(e)	Dengue	...	...	—	—	—	—	—
	(f)	Epidemic Dropsy	...	...	—	—	—	—	—
	(g)	Yaws	...	...	131	2,248	2,374	10	154
	(h)	Trypanosomiasis	...	...	29	110	139	9	34
	(i)	P.U.O.	...	...	4	148	152	6	1
26.	Glanders				—	—	—	—	—
27.	Anthrax				—	5	5	1	1
28.	Rabies				—	—	—	—	—
29.	Tetanus				—	2	2	1	—
30.	Mycosis				—	1	1	—	—
31.	Tuberculosis, Pulmonary and Laryngeal				11	157	168	48	9
32.	Tuberculosis of the Meninges or Central Nervous System				—	2	2	—	—
33.	Tuberculosis of the Intestines or Peritoneum				—	3	3	3	—
34.	Tuberculosis of the Vertebral Column				2	2	4	2	—
35.	Tuberculosis of Bones and Joints				—	11	11	—	1
36.	Tuberculosis of other organs—								
	(a)	Skin or Subcutaneous Tissue (Lupus)	...	...	—	3	3	—	—
	(b)	Bones	...	...	—	1	1	—	—
	(c)	Lymphatic System	...	...	—	6	6	1	—
	(d)	Genito-urinary	...	...	—	2	2	—	1
	(e)	Other organs	...	...	—	3	3	—	—
37.	Tuberculosis disseminated—								
	(a)	Acute	...	...	—	—	—	—	—
	(b)	Chronic	...	...	—	4	4	2	—
38.	Syphilis—								
	(a)	Primary	...	...	29	531	560	1	28
	(b)	Secondary	...	...	42	809	851	4	21
	(c)	Tertiary	...	...	158	915	1,073	29	63
	(d)	Hereditary	...	...	20	291	311	14	10
	(e)	Period not indicated	...	...	1	12	13	—	—
	(f)	Latent	...	...	—	14	14	—	—
39.	Soft Chancre				5	155	160	1	10

TABLE V—continued.

DISEASES.					Remain- ing in Hospital at end of 1930.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remain- ing in Hospital at end of 1931.
I. EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES—continued.									
40.	A.—Gonorrhœa and its complications	...	...	...	39	653	692	9	32
	B.—Stricture	...	...	...	8	149	157	7	11
	C.—Stricture and Extravasation	...	...	...	1	48	49	11	8
	D.—Gonorrhœal Ophthalmia	...	...	...	—	26	26	—	—
	E.—Gonorrhœal Arthritis	...	...	...	8	24	32	1	1
	F.—Salpingitis, etc.	...	...	...	1	19	20	—	—
	G.—Granuloma Venereum	...	...	...	4	15	19	1	1
41.	Septicæmia	...	...	...	2	27	29	27	—
42.	Other Infectious Diseases	...	...	...	1	2	3	—	—
II. GENERAL DISEASES NOT MENTIONED ABOVE.									
43.	Cancer or other malignant Tumours of the Buccal Cavity	...	...	...	—	3	3	—	—
44.	Cancer or other malignant Tumours of the Stomach or Liver	...	...	...	—	3	3	1	—
45.	Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum	...	...	...	—	2	2	2	—
46.	Cancer or other malignant Tumours of the Female Genital Organs	...	...	...	—	9	9	—	—
47.	Cancer or other malignant Tumours of the Breast	...	...	...	—	3	3	1	—
48.	Cancer or other malignant Tumours of the Skin	...	...	...	—	7	7	1	—
49.	Cancer or other malignant Tumours of organs not specified	...	...	...	—	31	31	8	3
50.	Tumours non-malignant	...	...	...	5	111	116	3	7
51.	Acute Rheumatism	...	...	...	—	23	23	—	1
52.	Chronic Rheumatism	...	...	...	11	56	67	—	3
52A.	Myalgia	...	...	...	2	154	156	—	3
53.	Scurvy (including Barlow's Disease)	...	...	...	—	—	—	—	—
54.	Pellagra	...	...	...	—	—	—	—	—
55.	Beri-Beri	...	...	...	—	2	2	—	—
56.	Rickets	...	...	...	—	2	2	1	—
57.	Diabetes (not including Insipidus)	...	...	...	—	1	1	—	—
58.	Anæmia—								
	(a) Pernicious	...	...	...	—	2	2	2	—
	(b) Other Anæmias and Chlorosis	...	...	...	1	47	48	5	—
59.	Diseases of the Pituitary Body	...	...	...	—	5	5	—	—
60.	Diseases of the Thyroid Gland—								
	(a) Exophthalmic Goitre	...	...	...	—	1	1	—	—
	(b) Other diseases of the Thyroid gland, Myxœdema	...	...	...	—	1	1	—	—
	(c) Others	...	...	...	—	6	6	—	—
61.	Diseases of the Para-Thyroid Glands	...	...	...	—	—	—	—	—
62.	Diseases of the Thymus	...	...	...	—	—	—	—	—
63.	Diseases of the Supra-Renal Glands	...	...	...	—	—	—	—	—
64.	Diseases of the Spleen	...	...	...	1	48	49	3	1
65.	Leukæmia—								
	(a) Leukæmia	...	...	...	1	3	4	2	—
	(b) Hodgkin's Disease	...	...	...	—	1	1	1	—
66.	Alcoholism	...	...	...	—	4	4	—	1
67.	Chronic poisoning by mineral substances (lead, mercury, etc.)	...	...	...	—	1	1	—	—
68.	Chronic poisoning by organic substances (morphia, cocaine, etc.)	...	...	...	—	2	2	—	—
69.	Other general diseases—								
	Auto-intoxication	...	...	...	—	1	1	—	1
	Purpura Hæmorrhagica	...	...	...	—	—	—	—	—
	Hæmophilia	...	...	...	—	—	—	—	—
	Diabetes Insipidus	...	...	...	—	—	—	—	—
	Others	...	...	...	—	1	1	—	—
III. AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.									
70.	Encephalitis (not including Encephalitis Lethargica)...				—	7	7	4	2
71.	Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis)	...	...	...	—	19	19	14	1
72.	Locomotor Ataxia	...	...	...	—	—	—	—	—
73.	Other affections of the Spinal Cord	...	...	...	—	8	8	2	—
74.	Apoplexy—								
	(a) Hæmorrhage	...	...	...	—	9	9	4	—
	(b) Embolism	...	...	...	—	1	1	—	—
	(c) Thrombosis	...	...	...	—	9	9	1	—
75.	Paralysis—								
	(a) Hemiplegia	...	...	...	3	21	24	—	2
	(b) Other Paralysis	...	...	...	2	29	31	5	2
76.	General Paralysis of the Insane	...	...	...	—	2	2	—	—
77.	Other forms of Mental Alienation	...	...	...	2	24	26	1	1
78.	Epilepsy	...	...	...	2	36	38	2	1
79.	Eclampsia Convulsions (non-puerperal) 5 years or over	...	...	...	—	—	—	—	—
80.	Infantile Convulsions	...	...	...	—	2	2	1	—
81.	Chorea	...	...	...	1	1	2	—	—
82.	A.—Hysteria	...	...	...	—	9	9	—	—
	B.—Neuritis	...	...	...	—	6	6	—	—
	C.—Neurasthenia	...	...	...	—	3	3	—	—
83.	Cerebral Softening	...	...	...	—	—	—	—	—
84.	Other affections of the Nervous System, such as Paralysis Agitans, Headache, Neuralgia, Insomnia, etc.	...	...	...	—	71	71	—	—



TABLE V—continued.

DISEASES.					Remain- ing in Hospital at end of 1930.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remain- ing in Hospital at end of 1931.
III. AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES—continued.									
85. Affections of the Organs of Vision—					5	169	174	—	6
(a) Conjunctivitis ... ..					1	135	136	—	5
(b) Trachoma ... ..					—	3	3	—	—
(c) Tumours of the Eye ... ..					4	27	31	—	—
(d) Iritis ... ..					2	159	161	—	1
(e) Other affections of the Eye ... ..					—	—	—	—	—
86. Affections of the Ear or Mastoid Sinus ... ..					3	90	93	1	3
(a) Otitis Media ... ..					1	41	42	—	1
(b) Others ... ..					—	—	—	—	—
IV. AFFECTIONS OF THE CIRCULATORY SYSTEM.					—	3	3	3	—
87. Pericarditis ... ..					1	3	4	3	—
88. Acute Endocarditis ... ..					—	2	2	—	—
89. Angina Pectoris ... ..					—	—	—	—	—
90. Other Diseases of the Heart—					—	—	—	—	—
(a) Valvular—					1	39	40	9	2
Mitral ... ..					1	6	7	1	—
Aortic ... ..					—	—	—	—	—
Tricuspid ... ..					—	1	1	1	—
Pulmonary ... ..					1	4	5	1	—
Mixed or unspecified ... ..					1	16	17	6	—
(b) Myocarditis ... ..					—	24	24	4	2
D.A.H. ... ..					9	15	24	11	—
Others ... ..					—	—	—	—	—
91. Diseases of the Arteries—					—	6	6	1	1
(a) Aneurism ... ..					—	1	1	—	1
(b) Arterio-Sclerosis ... ..					—	2	2	1	—
(c) Other diseases ... ..					1	1	2	—	—
92. Embolism or Thrombosis (non-cerebral) ... ..					—	—	—	—	—
93. Diseases of the Veins—					—	15	15	—	1
Hæmorrhoids ... ..					—	2	2	—	—
Varicose Veins ... ..					—	5	5	1	—
Phlebitis ... ..					—	—	—	—	—
94. Diseases of the Lymphatic System—					1	5	6	—	3
Lymphangitis ... ..					11	165	176	—	3
Lymphadenitis, Bubo (non-specific) ... ..					—	5	5	—	1
Others ... ..					—	4	4	—	—
95. Hæmorrhage of undetermined cause ... ..					—	11	11	3	2
96. Other affections of the Circulatory System ... ..					—	—	—	—	—
V. AFFECTIONS OF THE RESPIRATORY SYSTEM.					—	—	—	—	—
97. Diseases of the Nasal Passages and accessory sinuses—					2	1	3	—	—
Adenoids ... ..					—	2	2	—	—
Polypus ... ..					—	—	—	—	—
Rhinitis ... ..					—	26	26	—	1
Coryza ... ..					—	14	14	1	1
Others ... ..					—	—	—	—	—
98. Affections of the Larynx—					2	10	12	—	—
Laryngitis ... ..					1	26	27	—	—
Tracheitis ... ..					—	—	—	—	—
99. Bronchitis—					9	255	264	6	8
(a) Acute ... ..					5	118	123	3	11
(b) Chronic ... ..					10	233	243	55	10
100. Broncho-Pneumonia ... ..					—	—	—	—	—
101. Pneumonia—					17	549	566	158	15
(a) Lobar ... ..					5	255	260	61	15
(b) Unclassified ... ..					2	77	79	—	2
102. Pleurisy ... ..					1	5	6	4	—
102A. Empyema ... ..					—	—	—	—	—
103. Congestion of the Lungs ... ..					—	—	—	—	—
104. Gangrene of the Lungs ... ..					—	—	—	—	—
105. Asthma ... ..					—	38	38	—	1
106. Pulmonary Emphysema ... ..					—	3	3	2	—
107. Other affections of the Lungs—					—	—	—	—	—
Pulmonary Spirochætosis ... ..					—	4	4	—	—
Others ... ..					—	—	—	—	—
VI. DISEASES OF THE DIGESTIVE SYSTEM.					—	—	—	—	—
108. A.—Diseases of the Teeth or Gums—					1	27	28	—	—
Caries ... ..					—	6	6	—	—
Pyorrhœa ... ..					—	12	12	1	1
Others ... ..					—	—	—	—	—
B.—Other affections of the Mouth—					3	46	49	1	2
Stomatitis ... ..					—	3	3	—	—
Glossitis ... ..					—	5	5	1	—
Others ... ..					—	—	—	—	—
109. Affections of the Pharynx or Tonsils—					2	83	85	—	2
Tonsillitis ... ..					—	14	14	—	—
Pharyngitis ... ..					—	16	16	1	3
Others ... ..					—	—	—	—	—
110. Affections of the Oesophagus ... ..					—	—	—	—	—
111. A.—Ulcer of the Stomach ... ..					—	—	—	—	—
B.—Ulcer of the Duodenum ... ..					—	3	3	1	2
112. Other affections of the Stomach—					1	34	35	—	1
Gastritis ... ..					—	53	53	—	—
Dyspepsia ... ..					—	10	10	—	—
Others ... ..					—	—	—	—	—

TABLE V—continued.

DISEASES.					Remain- ing in Hospital at end of 1930.	Yearly Admissions.	Total Treated.	Total Deaths.	Remain- ing in Hospital at end of 1931.
VI. DISEASES OF THE DIGESTIVE SYSTEM—continued.									
113.	Diarrhœa and Enteritis—								
	Under two years of age	...	...	...	1	40	41	4	—
114.	Diarrhœa and Enteritis—								
	Two years of age and over	...	...	...	5	316	321	16	—
	Colitis	...	...	...	—	12	12	—	—
	Ulceration	...	...	...	—	2	2	—	—
114A.	Sprue	...	...	...	—	—	—	—	—
115.	Ankylostomiasis	...	...	...	17	487	504	23	9
116.	Diseases due to Intestinal Parasites—								
	(a) Cestoda (Taenia)	...	...	...	1	27	28	—	—
	(b) Trematoda (Flukes)	...	...	...	—	5	5	—	—
	(c) Bilharzia	...	...	...	—	12	12	3	3
	(d) Nematoda (other than Ankylostoma)—								
	Ascaris	...	...	...	—	37	37	—	1
	Trichocephalus dispar.	...	...	...	—	—	—	—	—
	Trichina	...	...	...	—	1	1	—	—
	Dracunculus	...	...	...	1	123	124	1	7
	Strongylus	...	...	...	—	—	—	—	—
	Oxyuris	...	...	...	—	—	—	—	—
	(e) Coccidia	...	...	...	—	—	—	—	—
	(f) Other parasites	...	...	...	—	5	5	—	—
	(g) Unclassified	...	...	...	1	4	5	—	—
117.	Appendicitis	...	...	...	1	25	26	—	—
118.	Hernia	...	...	...	10	282	292	25	23
119.	A.—Affections of the Anus and Rectum—								
	Fistula	...	...	...	2	13	15	—	1
	Others	...	...	...	4	31	35	2	—
	B.—Other affections of the Intestines—								
	Enteroptosis	...	...	...	—	5	5	3	—
	Constipation	...	...	...	3	127	130	2	—
	Others	...	...	...	—	1	1	—	—
120.	Acute Yellow Atrophy of the Liver	...	...	...	—	3	3	3	—
121.	Hydatid of the Liver	...	...	...	—	—	—	—	—
122.	Cirrhosis of the Liver—								
	(a) Alcoholic	...	...	...	—	4	4	—	1
	(b) Other forms	...	...	...	—	26	26	14	—
123.	Biliary Calculus	...	...	...	—	2	2	1	—
124.	Other affections of the Liver—								
	Abscess	...	...	...	—	9	9	2	—
	Hepatitis	...	...	...	1	14	15	1	1
	Cholecystitis	...	...	...	—	1	1	—	—
	Jaundice	...	...	...	1	35	36	2	2
	Others	...	...	...	—	12	12	5	—
125.	Diseases of the Pancreas	...	...	...	—	—	—	—	—
126.	Peritonitis (of unknown cause)	...	...	...	1	14	15	13	—
127.	Other affections of the Digestive System	...	...	...	2	33	35	8	1
VII. DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL)									
128.	Acute Nephritis	...	...	...	1	40	41	7	9
129.	Chronic Nephritis	...	...	...	1	38	39	15	—
130.	A.—Chyluria	...	...	...	—	—	—	—	—
	B.—Schistosomiasis	...	...	...	1	5	6	1	—
131.	Other affections of the Kidneys and Ureters—								
	Pyelitis	...	...	...	—	4	4	—	—
	Others	...	...	...	—	8	8	5	2
132.	Urinary Calculus	...	...	...	—	2	2	—	—
133.	Diseases of the Bladder—								
	Cystitis	...	...	...	3	60	63	3	2
	Others	...	...	...	1	11	12	2	—
134.	Diseases of the Urethra—								
	(a) Stricture	...	...	...	—	4	4	—	—
	(b) Other	...	...	...	—	13	13	—	1
135.	Diseases of the Prostate—								
	Hypertrophy	...	...	...	—	1	1	—	—
	Prostatitis	...	...	...	—	1	1	—	—
136.	Diseases (non-Venereal) of the Genital Organs of Man—								
	Epididymitis	...	...	...	—	28	28	—	1
	Orchitis	...	...	...	5	65	70	—	—
	Hydrocele	...	...	...	4	127	131	—	4
	Ulcer of Penis	...	...	...	—	23	23	1	—
	Varicocele	...	...	...	—	6	6	—	—
	Others	...	...	...	15	154	169	1	7
137.	Cysts or other non-malignant Tumours of the Ovaries				—	6	6	1	—
138.	Salpingitis :—								
	Abscess of the Pelvis	...	...	...	1	21	22	2	1
139.	Uterine Tumours (non-malignant)	...	...	...	1	12	13	—	—
140.	Uterine Hæmorrhage (non-puerperal)	...	...	...	—	3	3	—	—
141.	A.—Metritis	...	...	...	—	6	6	—	1
	B.—Other affections of the Female Genital Organs—								
	Displacement of Uterus	...	...	...	—	5	5	—	—
	Amenorrhœa	...	...	...	—	5	5	—	—
	Dysmenorrhœa	...	...	...	—	9	9	—	—
	Leucorrhœa	...	...	...	—	7	7	—	1
	Others	...	...	...	—	13	13	1	1



TABLE V—continued.

DISEASES.					Remain- ing in Hospital at end of 1930.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remain- ing in Hospital at end of 1931
VII. DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL)									
—continued.									
142. Discases of the Breast (non-puerperal)—									
Mastitis ... ..					1	27	28	1	2
Abscess of Breast ... ..					1	13	14	—	1
Others ... ..					1	1	2	—	—
VIII. PUERPERAL STATE.									
143. A.—Normal Labour ... ..					31	620	651	2	3
B.—Accidents of Pregnancy—									
(a) Abortion or Miscarriage ... ..					2	112	114	3	2
(b) Ectopic Gestation ... ..					1	5	6	3	—
(c) Other accidents of Pregnancy ... ..					—	23	23	6	—
C.—Ante-natal supervision ... ..					1	52	53	—	4
144. Puerperal Hemorrhage ... ..					—	2	2	1	—
145. Other accidents of Parturition ... ..					—	53	53	15	—
146. Puerperal Septicæmia ... ..					1	8	9	8	—
147. Phlegmasia Dolens ... ..					—	—	—	—	—
148. Puerperal Eclampsia ... ..					—	2	2	—	—
149. Sequelæ of Labour ... ..					1	12	13	6	—
150. Puerperal affections of the Breast ... ..					—	—	—	—	—
IX. AFFECTIONS OF THE SKIN AND CELLULAR TISSUES.									
151. Gangrene ... ..					2	20	22	3	—
152. Boil ... ..					—	46	46	—	2
Carbuncle ... ..					—	8	8	1	1
153. Abscess ... ..					24	606	630	13	34
Whitlow and Onychia ... ..					2	68	70	—	2
Cellulitis ... ..					10	332	342	2	8
154. A.—Tinea ... ..					—	7	7	—	—
B.—Scabies ... ..					5	96	101	—	8
155. Other Diseases of the Skin—									
Erythema ... ..					—	8	8	—	1
Urticaria ... ..					—	10	10	—	—
Eczema ... ..					—	25	25	1	1
Herpes ... ..					—	8	8	—	—
Psoriasis ... ..					—	1	1	—	—
Elephantiasis ... ..					1	80	81	1	9
Myiasis ... ..					—	—	—	—	—
Chigoes ... ..					1	57	58	—	9
Cutaneous Leishmaniasis ... ..					—	—	—	—	—
Ulcers ... ..					208	3,904	1,112	29	303
Others ... ..					2	127	129	1	11
X. DISEASES OF THE BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS)—									
156. Diseases of the Bones—									
Osteitis ... ..					4	18	22	1	2
Periostitis ... ..					—	11	11	—	—
Others ... ..					—	24	24	1	1
157. Diseases of Joints—									
Arthritis ... ..					2	74	76	2	3
Synovitis ... ..					4	56	60	—	3
Others ... ..					—	4	4	—	—
158. Other diseases of Bones or Organs of Locomotion—									
(a) Teno-synovitis ... ..					1	2	3	—	—
(b) Ganglion ... ..					1	8	9	—	4
(c) Others ... ..					—	17	17	1	1
XI. MALFORMATIONS.									
159. Malformations—									
Hydrocephalus ... ..					—	2	2	—	—
Hypospadias ... ..					—	—	—	—	—
Spina Bifida ... ..					—	—	—	—	—
Others ... ..					—	—	—	—	—
XII. DISEASES OF INFANCY.									
160. Normal living babies ... ..					20	591	611	—	8
160A. Congenital Debility ... ..					—	6	6	1	—
161. Premature Birth ... ..					—	18	18	12	—
162. Other affections of Infancy ... ..					—	10	10	6	—
162A. Babies still-born ... ..					—	44	44	44	—
163. Infant neglect (infants of three months or over) ... ..					—	—	—	—	—
XIII. AFFECTIONS OF OLD AGE.									
164. Senility—									
Senile Dementia ... ..					—	8	8	3	—
XIV. AFFECTIONS PRODUCED BY EXTERNAL CAUSES.									
165. Suicide by Poisoning ... ..					—	—	—	—	—
166. Corrosive Poisoning (intentional) ... ..					—	—	—	—	—
167. Suicide by Gas Poisoning ... ..					—	—	—	—	—
168. Suicide by Hanging or Strangulation ... ..					—	—	—	—	—
169. Suicide by Drowning ... ..					—	—	—	—	—
170. Suicide by Firearms ... ..					—	—	—	—	—
171. Suicide by cutting or stabbing instruments ... ..					—	—	—	—	—
172. Suicide by jumping from a height ... ..					—	—	—	—	—
173. Suicide by crushing ... ..					—	—	—	—	—
174. Other suicides ... ..					—	—	—	—	—

TABLE V—continued.

D I S E A S E S .						Remain- ing in Hospital at end of 1930.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remain- ing in Hospital at end of 1931.
XIV. AFFECTIONS PRODUCED BY EXTERNAL CAUSES—continued.										
175.	Food Poisoning—									
	Botulism	...	...	...	...	—	11	11	—	1
176.	Attacks of poisonous animals—									
	Snake Bite	...	...	...	...	—	72	72	1	2
	Insect Bite	...	...	...	...	—	5	5	—	—
177.	Other accidental Poisonings	...	...	...	...	—	10	10	1	—
178.	Burns (by fire)	...	...	...	...	25	385	410	34	23
179.	Burns (other than by fire)	...	...	...	...	1	49	50	1	1
180.	Suffocation (accidental)	...	...	...	...	—	—	—	—	—
181.	Poisoning by Gas (accidental)	...	...	...	...	—	—	—	—	—
182.	Drowning (accidental)	...	...	...	...	—	—	—	—	—
183.	Wounds (by Firearms, war excepted)	...	...	...	...	—	5	5	1	—
184.	Wounds (by cutting or stabbing instruments)	...	...	...	...	81	1,034	1,115	19	82
185.	Wounds (by fall)	...	...	...	...	9	247	256	2	7
186.	Wounds (in Mines or Quarries)	...	...	...	...	—	2	2	—	—
187.	Wounds (by Machinery)	...	...	...	...	—	10	10	—	—
188.	Wounds (crushing, e.g., railway accidents, etc.)	...	...	...	...	1	30	31	4	—
189.	Injuries inflicted by Animals, Bites, Kicks, etc.	...	...	...	...	7	96	103	7	7
190.	Wounds inflicted on Active Service	...	...	...	...	—	—	—	—	—
191.	Executions of civilians by belligerents	...	...	...	...	—	—	—	—	—
192.	A.—Over fatigue	...	...	...	...	—	1	1	—	—
	B.—Hunger or Thirst	...	...	...	...	—	2	2	1	—
193.	Exposure to Cold, Frost bite, etc.	...	...	...	...	—	—	—	—	—
194.	Exposure to Heat—									
	Heatstroke	...	...	...	...	—	—	—	—	—
	Sunstroke	...	...	...	...	—	—	—	—	—
195.	Lightning Stroke	...	...	...	...	—	4	4	1	1
196.	Electric Shock	...	...	...	...	—	—	—	—	—
197.	Murder by Firearms	...	...	...	...	—	—	—	—	—
198.	Murder by cutting or stabbing instruments	...	...	...	...	—	—	—	—	—
199.	Murder by other means	...	...	...	...	—	—	—	—	—
200.	Infanticide (murder of an infant under one year)	...	...	...	...	—	—	—	—	—
201.	A.—Dislocation	...	...	...	...	—	26	26	—	—
	B.—Sprain	...	...	...	...	3	53	56	—	1
	C.—Fracture	...	...	...	...	27	274	301	26	22
202.	Other external Injuries	...	...	...	...	65	1,456	1,521	18	64
203.	Deaths by Violence of unknown cause	...	...	...	...	—	—	—	—	—
XV. ILL-DEFINED DISEASES.										
204.	Sudden Death (cause unknown)	...	...	...	...	—	1	1	1	—
205.	A.—Diseases not already specified or ill-defined—									
	Ascites	...	...	...	...	3	35	38	6	4
	Edema	...	...	...	...	—	16	16	2	1
	Asthenia	...	...	...	...	3	67	70	15	4
	Shock	...	...	...	...	—	2	2	1	—
	Hyperpyrexia	...	...	...	...	—	1	1	—	—
	B.—Malingering	...	...	...	...	—	14	14	—	—
XVI. DISEASES, THE TOTAL OF WHICH HAVE NOT CAUSED DEATHS, INCLUDING N.A.D. AND N.Y.D.						10				
		...	...	...	...	9	221	230	3	4
GRAND TOTAL						1,395	28,525	29,920	1,280	1,332



D I S E A S E S .										Total New Cases.	Total Cases Admitted to Hospital.
<b>I. EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES.</b>											
1.	Enteric Group—										
	(a)	Typhoid Fever	...	...	...	...	...	...	...	58	58
	(b)	Paratyphoid A	...	...	...	...	...	...	...	1	1
	(c)	Paratyphoid B	...	...	...	...	...	...	...	4	3
	(d)	Type not defined	...	...	...	...	...	...	...	2	2
2.	Typhus									—	—
3.	Relapsing Fever									871	210
4.	Undulant Fever									—	—
5.	Malaria—										
	(a)	Tertian	...	...	...	...	...	...	...	1,217	278
	(b)	Quartan	...	...	...	...	...	...	...	220	67
	(c)	Aestivo-autumnal	...	...	...	...	...	...	...	5,634	1,560
	(d)	Clinical	...	...	...	...	...	...	...	42,948	1,137
	(e)	Mixed Infections	...	...	...	...	...	...	...	54	13
	(f)	Cachexia	...	...	...	...	...	...	...	107	4
	(g)	Blackwater	...	...	...	...	...	...	...	113	34
6.	Smallpox									—	—
	Alastrim									—	—
7.	Measles									884	113
8.	Scarlet Fever									—	—
9.	Whooping Cough									2,601	51
10.	Diphtheria									1	1
11.	Influenza									5,706	251
12.	Miliary Fever									—	—
13.	Mumps									221	2
14.	Cholera									—	—
15.	Epidemic diarrhoea									45	—
16.	Dysentery—										
	(a)	Amœbic	...	...	...	...	...	...	...	244	121
	(b)	Bacillary	...	...	...	...	...	...	...	283	230
	(c)	Undefined or due to other causes	...	...	...	...	...	...	...	2,018	153
17.	Plague—										
	(a)	Bubonic	...	...	...	...	...	...	...	55	9
	(b)	Pneumonic	...	...	...	...	...	...	...	1	1
	(c)	Septicaemic	...	...	...	...	...	...	...	—	—
	(d)	Undefined	...	...	...	...	...	...	...	15	12
18.	Yellow Fever									—	—
19.	Spirochaetosis ictero-hæmorrhagica									—	—
20.	Leprosy									3,822	113
21.	Erysipelas									10	7
22.	Acute Poliomyelitis									—	—
23.	Encephalitis Lethargica									4	4
24.	Epidemic Cerebro-Spinal Fever									33	32
25.	Other Epidemic Diseases—										
	(a)	Rubeola (German Measles)	...	...	...	...	...	...	...	98	8
	(b)	Varicella (Chicken-pox)	...	...	...	...	...	...	...	495	243
	(c)	Kala-azar	...	...	...	...	...	...	...	—	—
	(d)	Phlebotomus Fever	...	...	...	...	...	...	...	—	—
	(e)	Dengue	...	...	...	...	...	...	...	—	—
	(f)	Epidemic Dropsy	...	...	...	...	...	...	...	—	—
	(g)	Yaws	...	...	...	...	...	...	...	47,598	2,243
	(h)	Trypanosomiasis	...	...	...	...	...	...	...	513	110
	(i)	P.U.O.	...	...	...	...	...	...	...	2,118	148
26.	Glanders									—	—
27.	Anthrax									44	5
28.	Rabies									—	—
29.	Tetanus									2	2
30.	Mycosis									1	1
31.	Tuberculosis, Pulmonary and Laryngeal									299	157
32.	Tuberculosis of the Meninges or Central Nervous System									2	2
33.	Tuberculosis of the Intestines or Peritoneum									3	3
34.	Tuberculosis of the Vertebral Column									5	2
35.	Tuberculosis of Bones and Joints									17	11
36.	Tuberculosis of other organs—										
	(a)	Skin or Subcutaneous Tissue (Lupus)	...								

TABLE VI—continued.

D I S E A S E S .								Total New Cases.	Total Cases Admitted to Hospital.
<b>I. EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES—continued.</b>									
40.	A.—Gonorrhœa and its complications	...	...	...	...	...	...	8,330	653
	B.—Stricture	...	...	...	...	...	...	425	149
	C.—Stricture and Extravasation	...	...	...	...	...	...	63	48
	D.—Gonorrhœal Ophthalmia	...	...	...	...	...	...	43	26
	E.—Gonorrhœal Arthritis	...	...	...	...	...	...	47	24
	F.—Salpingitis, etc.	...	...	...	...	...	...	23	19
	G.—Granuloma Venereum	...	...	...	...	...	...	32	15
41.	Septicæmia	...	...	...	...	...	...	27	27
42.	Other Infectious Diseases	...	...	...	...	...	...	28	2
<b>II. GENERAL DISEASES NOT MENTIONED ABOVE.</b>									
43.	Cancer or other malignant Tumours of the Buccal Cavity	...	...	...	...	...	...	3	3
44.	Cancer or other malignant Tumours of the Stomach or Liver	...	...	...	...	...	...	3	3
45.	Cancer or other malignant Tumours of the Peritoneum, Intestines, Rectum	...	...	...	...	...	...	3	2
46.	Cancer or other malignant Tumours of the Female Genital Organs	...	...	...	...	...	...	11	9
47.	Cancer or other malignant Tumours of the Breast	...	...	...	...	...	...	6	3
48.	Cancer or other malignant Tumours of the Skin	...	...	...	...	...	...	7	7
49.	Cancer or other malignant Tumours of organs not specified	...	...	...	...	...	...	35	31
50.	Tumours non-malignant	...	...	...	...	...	...	228	111
51.	Acute Rheumatism	...	...	...	...	...	...	35	23
52.	Chronic Rheumatism	...	...	...	...	...	...	3,971	56
52A.	Myalgia	...	...	...	...	...	...	32,773	154
53.	Scurvy (including Barlow's Disease)	...	...	...	...	...	...	—	—
54.	Pellagra	...	...	...	...	...	...	—	—
55.	Beri-Beri	...	...	...	...	...	...	3	2
56.	Rickets	...	...	...	...	...	...	8	2
57.	Diabetes (not including Insipidus)	...	...	...	...	...	...	6	1
58.	Anæmia—								
	(a) Pernicious	...	...	...	...	...	...	8	2
	(b) Other Anæmias and Chlorosis	...	...	...	...	...	...	517	47
59.	Diseases of the Pituitary Body	...	...	...	...	...	...	5	5
60.	Diseases of the Thyroid Gland—								
	(a) Exophthalmic Goitre	...	...	...	...	...	...	9	1
	(b) Other diseases of the Thyroid gland, Myxœdema	...	...	...	...	...	...	2	1
	(c) Others	...	...	...	...	...	...	28	6
61.	Diseases of the Para-Thyroid Glands	...	...	...	...	...	...	—	—
62.	Diseases of the Thymus	...	...	...	...	...	...	—	—
63.	Diseases of the Supra-Renal Glands	...	...	...	...	...	...	—	—
64.	Diseases of the Spleen	...	...	...	...	...	...	—	—
65.	Leukæmia—							2,185	48
	(a) Leukæmia	...	...	...	...	...	...	3	3
	(b) Hodgkin's Disease	...	...	...	...	...	...	2	1
66.	Alcoholism	...	...	...	...	...	...	6	4
67.	Chronic poisoning by mineral substances (lead, mercury, etc.)	...	...	...	...	...	...	2	1
68.	Chronic poisoning by organic substances (morphia, cocaine, etc.)	...	...	...	...	...	...	3	2
69.	Other General Diseases—								
	Auto-intoxication	...	...	...	...	...	...	1	1
	Purpura Hæmorrhagica	...	...	...	...	...	...	1	—
	Hæmophilia	...	...	...	...	...	...	—	—
	Diabetes Insipidus	...	...	...	...	...	...	—	—
	Others	...	...	...	...	...	...	5	1
<b>III. AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.</b>									
70.	Encephalitis (not including Encephalitis Lethargica)	...	...	...	...	...	...	9	7
71.	Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis)	...	...	...	...	...	...	19	19
72.	Locomotor Ataxia	...	...	...	...	...	...	—	—
73.	Other affections of the Spinal Cord	...	...	...	...	...	...	21	8
74.	Apoplexy—								



TABLE VI—continued.

D I S E A S E S .										Total New Cases.	Total Cases Admitted to Hospital,
IV. AFFECTIONS OF THE CIRCULATORY SYSTEM.											
87.	Pericarditis	...	...	...	...	...	...	...	...	3	3
88.	Acute Endocarditis	...	...	...	...	...	...	...	...	9	3
89.	Angina Pectoris	...	...	...	...	...	...	...	...	3	2
90.	Other Diseases of the Heart—										
	(a) Valvular—										
	Mitral	...	...	...	...	...	...	...	...	110	39
	Aortic	...	...	...	...	...	...	...	...	37	6
	Tricuspid	...	...	...	...	...	...	...	...	—	—
	Pulmonary	...	...	...	...	...	...	...	...	1	1
	Mixed or unspecified	...	...	...	...	...	...	...	...	158	4
	(b) Myocarditis	...	...	...	...	...	...	...	...	23	16
	D.A.H.	...	...	...	...	...	...	...	...	224	24
	Others	...	...	...	...	...	...	...	...	165	15
91.	Diseases of the Arteries—										
	(a) Aneurism	...	...	...	...	...	...	...	...	11	6
	(b) Arterio-Sclerosis	...	...	...	...	...	...	...	...	2	1
	(c) Other diseases	...	...	...	...	...	...	...	...	9	2
92.	Embolism or Thrombosis (non-cerebral)									2	1
93.	Diseases of the Veins—										
	Hæmorrhoids	...	...	...	...	...	...	...	...	86	15
	Varicose Veins	...	...	...	...	...	...	...	...	12	2
	Phlebitis	...	...	...	...	...	...	...	...	8	5
94.	Diseases of the Lymphatic System—										
	Lymphangitis	...	...	...	...	...	...	...	...	74	5
	Lymphadenitis, Bubo (non-specific)	...	...	...	...	...	...	...	...	1,891	165
	Others	...	...	...	...	...	...	...	...	49	5
95.	Hæmorrhage of undetermined cause									7	4
96.	Other affections of the Circulatory system									112	11
V. AFFECTIONS OF THE RESPIRATORY SYSTEM.											
97.	Diseases of the Nasal Passages and accessory sinuses—										
	Adenoids	...	...	...	...	...	...	...	...	185	1
	Polypus	...	...	...	...	...	...	...	...	4	2
	Rhinitis	...	...	...	...	...	...	...	...	237	—
	Coryza	...	...	...	...	...	...	...	...	20,477	26
	Others	...	...	...	...	...	...	...	...	1,123	14
98.	Affections of the Larynx—										
	Laryngitis	...	...	...	...	...	...	...	...	1,446	10
	Tracheitis	...	...	...	...	...	...	...	...	11,593	26
99.	Bronchitis—										
	(a) Acute	...	...	...	...	...	...	...	...	17,081	255
	(b) Chronic	...	...	...	...	...	...	...	...	24,229	118
100.	Broncho-Pneumonia									401	293
101.	Pneumonia—										
	(a) Lobar	...	...	...	...	...	...	...	...	702	549
	(b) Unclassified	...	...	...	...	...	...	...	...	1,699	255
102.	Pleurisy									470	77
102A.	Empyema									8	5
103.	Congestion of the Lungs									—	—
104.	Gangrene of the Lungs									—	—
105.	Asthma									569	38
106.	Pulmonary Emphysema									3	3
107.	Other affections of the Lungs—										
	Pulmonary Spirochætosis	...	...	...	...	...	...	...	...	—	—
	Others	...	...	...	...	...	...	...	...	2,945	4
VI. DISEASES OF THE DIGESTIVE SYSTEM.											
108.	A.—Diseases of the Teeth or Gums—										
	Caries	...	...	...	...	...	...	...	...	4,552	27
	Pyorrhœa	...	...	...	...	...	...	...	...	512	6
	Others	...	...	...	...	...	...	...	...	437	12
	B.—Other affections of the Mouth—										
	Stomatitis	...	...	...	...	...	...	...	...	7,222	46
	Glossitis	...	...	...	...	...	...	...	...	70	3
	Others	...	...	...	...	...	...	...	...	179	5
109.	Affections of the Pharynx or Tonsils—										
	Tonsilitis	...	...	...	...	...	...	...	...	2,462	83
	Pharyngitis	...	...	...	...	...	...	...	...	1,486	14
	Others	...	...	...	...	...	...	...	...	565	16
110.	Affections of the Œsophagus									—	—
111.	A.—Ulcer of the Stomach									4	—
	B.—Ulcer of the Duodenum									4	3
112.	Other affections of the Stomach—										
	Gastritis	...	...	...	...	...	...	...	...	885	34
	Dyspepsia	...	...	...	...	...	...	...	...	10,277	53
	Others	...	...	...	...	...	...	...	...	2,427	10
113.	Diarrhœa and Enteritis—										
	Under two years of age	...	...	...	...	...	...	...	...	3,901	40
114.	Diarrhœa and Enteritis—										
	Two years of age and over	...	...	...	...	...	...	...	...	11,102	316
	Colitis	...	...	...	...	...	...	...	...	903	12
	Ulceration	...	...	...	...	...	...	...	...	2	2
114A.	Sprue									—	—

TABLE VI—continued.

D I S E A S E S .										Total New Cases.	Total Cases Admitted to Hospital.
VI. DISEASES OF THE DIGESTIVE SYSTEM—continued.											
115.	Ankylostomiasis	...	...	...	...	...	...	...	...	836	487
116.	Diseases due to Intestinal Parasites—										
(a)	Cestoda (Taenia)	...	...	...	...	...	...	...	...	2,435	27
(b)	Trematoda (Flukes)	...	...	...	...	...	...	...	...	21	5
(c)	Bilharzia	...	...	...	...	...	...	...	...	14	12
(d)	Nematoda (other than Ankylostoma)—										
	Ascaris	...	...	...	...	...	...	...	...	929	37
	Trichocephalus dispar.	...	...	...	...	...	...	...	...	—	—
	Trichina	...	...	...	...	...	...	...	...	5	1
	Dracunculus	...	...	...	...	...	...	...	...	1,711	123
	Strongylus	...	...	...	...	...	...	...	...	—	—
	Oxyuris	...	...	...	...	...	...	...	...	—	—
(e)	Coccidia	...	...	...	...	...	...	...	...	—	—
(f)	Other parasites	...	...	...	...	...	...	...	...	10	5
(g)	Unclassified	...	...	...	...	...	...	...	...	23	4
117.	Appendicitis	...	...	...	...	...	...	...	...	27	25
118.	Hernia	...	...	...	...	...	...	...	...	524	282
119.	A.—Affections of the Anus and Rectum—										
	Fistula	...	...	...	...	...	...	...	...	23	13
	Others	...	...	...	...	...	...	...	...	74	31
	B.—Other affections of the Intestines—										
	Enteroptosis	...	...	...	...	...	...	...	...	6	5
	Constipation	...	...	...	...	...	...	...	...	26,958	127
	Others	...	...	...	...	...	...	...	...	1	1
120.	Acute Yellow Atrophy of the Liver	...	...	...	...	...	...	...	...	3	3
121.	Hydatid of the Liver	...	...	...	...	...	...	...	...	—	—
122.	Cirrhosis of the Liver—										
(a)	Alcoholic	...	...	...	...	...	...	...	...	7	4
(b)	Other forms	...	...	...	...	...	...	...	...	31	26
123.	Biliary Calculus	...	...	...	...	...	...	...	...	3	2
124.	Other affections of the Liver—										
	Abscess	...	...	...	...	...	...	...	...	9	9
	Hepatitis	...	...	...	...	...	...	...	...	52	14
	Cholecystitis	...	...	...	...	...	...	...	...	6	1
	Jaundice	...	...	...	...	...	...	...	...	310	35
	Others	...	...	...	...	...	...	...	...	155	12
125.	Diseases of the Pancreas	...	...	...	...	...	...	...	...	—	—
126.	Peritonitis (of unknown cause)	...	...	...	...	...	...	...	...	15	14
127.	Other affections of the Digestive System	...	...	...	...	...	...	...	...	6,111	33
VII. DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL).											
128.	Acute Nephritis	...	...	...	...	...	...	...	...	54	40
129.	Chronic Nephritis	...	...	...	...	...	...	...	...	48	38
130.	A.—Chyluria	...	...	...	...	...	...	...	...	—	—
	B.—Schistosomiasis	...	...	...	...	...	...	...	...	5	5
131.	Other affections of the Kidneys and Uretus—										
	Pyelitis	...	...	...	...	...	...	...	...	10	4
	Others	...	...	...	...	...	...	...	...	16	8
132.	Urinary Calculus	...	...	...	...	...	...	...	...	3	2
133.	Diseases of the Bladder—										
	Cystitis	...	...	...	...	...	...	...	...	150	60
	Others	...	...	...	...	...	...	...	...	15	11
134.	Diseases of the Urethra—										
(a)	Stricture	...	...	...	...	...	...	...	...	37	4
(b)	Other	...	...	...	...	...	...	...	...	51	13
135.	Diseases of the Prostate—										
	Hypertrophy	...	...	...	...	...	...	...	...	3	1
	Prostatitis	...	...	...	...	...	...	...	...	4	1
136.	Diseases (non-Venereal) of the Genital Organs of Man—										
	Epididymitis	...	...	...	...	...	...	...	...	30	28
	Orchitis	...	...	...	...	...	...	...	...	505	65
	Hydrocele	...	...	...	...	...	...	...	...	159	127
	Ulcer of Penis	...	...	...	...	...	...	...	...	56	23
	Varicocele	...	...	...	...	...	...	...	...	9	6
	Others	...	...	...	...	...	...	...	...	224	154
137.	Cysts or other non-malignant Tumours of the Ovaries	...	...	...	...	...	...	...	...	21	6
138.	Salpingitis—										
	Abscess of the Pelvis	...	...	...	...	...	...	...	...	43	21
139.	Uterine Tumours (non-malignant)	...	...	...	...	...	...	...	...	33	12
140.	Uterine Hæmorrhage (non-puerperal)	...	...	...	...	...	...	...	...	26	3
141.	A.—Metritis	...	...	...	...	...	...	...	...	23	6
	B.—Other affections of the Female Genital Organs—										
	Displacement of Uterus	...	...	...	...	...	...	...	...	8	5
	Amenorrhœa	...	...	...	...	...	...	...	...	78	5
	Dysmenorrhœa	...	...	...	...	...	...	...	...	285	9
	Leucorrhœa	...	...	...	...	...	...	...	...	123	7
	Others	...	...	...	...	...	...	...	...	16	13
142.	Diseases of the Breast (non-puerperal)—										
	Mastitis	...	...	...	...	...	...	...	...	333	27
	Abscess of Breast	...	...	...	...	...	...	...	...	99	13
	Others	...	...	...	...	...	...	...	...	6	1



TABLE VI—continued.

	DISEASES.	Total New Cases.	Total Cases Admitted to Hospital.
VIII.	PUERPERAL STATE.		
143.	A.—Normal Labour ... ..	688	620
	B.—Accidents of Pregnancy—		
	(a) Abortion or Miscarriage ... ..	175	112
	(b) Fœtopic Gestation ... ..	7	5
	(c) Other accidents of Pregnancy ... ..	36	23
	C.—Ante-natal Supervision ... ..	3,760	52
144.	Puerperal Hæmorrhage ... ..	3	2
145.	Other accidents of Parturition ... ..	56	53
146.	Puerperal Septicæmia ... ..	12	8
147.	Phlegmasia Dolens ... ..	—	—
148.	Puerperal Eclampsia ... ..	2	2
149.	Sequelæ of Labour ... ..	14	12
150.	Puerperal affections of the Breast ... ..	—	—
IX.	AFFECTIONS OF THE SKIN AND CELLULAR TISSUES.		
151.	Gangrene ... ..	43	20
152.	Boil ... ..	3,997	46
	Carbuncle ... ..	35	8
153.	Abscess ... ..	6,838	606
	Whitlow and Onychia ... ..	1,443	68
	Cellulitis ... ..	6,014	332
154.	A.—Tinea ... ..	2,055	7
	B.—Scabies ... ..	30,509	96
155.	Other Diseases of the Skin—		
	Erythema ... ..	183	8
	Urticaria ... ..	301	10
	Eczema ... ..	1,082	25
	Herpes ... ..	153	8
	Psoriasis ... ..	36	1
	Elephantiasis ... ..	406	80
	Myiasis ... ..	2	—
	Chigoes ... ..	887	57
	Cutaneous Leishmaniasis ... ..	—	—
	Ulcers ... ..	53,828	3,904
	Others ... ..	1,710	127
X.	DISEASES OF THE BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS).		
156.	Diseases of the Bones—		
	Osteitis ... ..	63	18
	Periostitis ... ..	60	11
	Others ... ..	46	24
157.	Diseases of Joints—		
	Arthritis ... ..	803	74
	Synovitis ... ..	930	56
	Others ... ..	77	4
158.	Other diseases of Bones or Organs of Locomotion ... ..		
	(a) Teno-synovitis ... ..	20	2
	(b) Ganglion ... ..	133	8
	(c) Others ... ..	63	17
XI.	MALFORMATIONS.		
159.	Malformations—		
	Hydrocephalus ... ..	5	2
	Hypospadias ... ..	1	—
	Spina Bifida ... ..	1	—
	Others ... ..	—	—
XII.	DISEASES OF INFANCY.		
160.	Normal living babies ... ..	640	591
160A.	Congenital Debility ... ..	183	6
161.	Premature Birth ... ..	24	18
162.	Other affections of Infancy ... ..	31	10
162A.	Babies still-born ... ..	51	44
163.	Infant neglect (infants of three months or over) ... ..	—	—
XIII.	AFFECTIONS OF OLD AGE.		
164.	Senility—		
	Senile Dementia ... ..	18	8
XIV.	AFFECTIONS PRODUCED BY EXTERNAL CAUSES.		
165.	Suicide by Poisoning ... ..	—	—
166.	Corrosive Poisoning (intentional) ... ..	—	—
167.	Suicide by Gas Poisoning ... ..	—	—
168.	Suicide by Hanging or Strangulation ... ..	—	—
169.	Suicide by Drowning ... ..	—	—
170.	Suicide by Firearms ... ..	—	—
171.	Suicide by cutting or stabbing instruments ... ..	—	—
172.	Suicide by jumping from a height ... ..	—	—
173.	Suicide by crushing ... ..	—	—
174.	Other suicides ... ..	—	—
175.	Food Poisoning—		
	Botulism ... ..	15	11
176.	Attacks of poisonous animals—		
	Snake Bite ... ..	293	72
	Insect Bite ... ..	342	5

TABLE VI—*continued.*

D I S E A S E S .										Total New Cases.	Total Cases Admitted to Hospital.
XIV. AFFECTIONS PRODUCED BY EXTERNAL CAUSES— <i>continued.</i>											
177.	Other accidental Poisonings	...	...	...	...	...	...	...	...	20	10
178.	Burns (by fire)	...	...	...	...	...	...	...	...	4,426	385
179.	Burns (other than by fire)	...	...	...	...	...	...	...	...	346	49
180.	Suffocation (accidental)	...	...	...	...	...	...	...	...	—	—
181.	Poisoning by Gas (accidental)	...	...	...	...	...	...	...	...	—	—
182.	Drowning (accidental)	...	...	...	...	...	...	...	...	—	—
183.	Wounds (by Firearms, war excepted)	...	...	...	...	...	...	...	...	5	5
184.	Wounds (by cutting or stabbing instruments)	...	...	...	...	...	...	...	...	26,949	1,034
185.	Wounds (by Fall)	...	...	...	...	...	...	...	...	8,031	247
186.	Wounds (in Mines or Quarries)	...	...	...	...	...	...	...	...	6	2
187.	Wounds (by Machinery)	...	...	...	...	...	...	...	...	640	10
188.	Wounds (crushing, <i>e.g.</i> , railway accidents, etc.)	...	...	...	...	...	...	...	...	413	30
189.	Injuries inflicted by Animals, Bites, Kicks, etc.	...	...	...	...	...	...	...	...	2,777	96
190.	Wounds inflicted on Active Service	...	...	...	...	...	...	...	...	—	—
191.	Executions of civilians by belligerents	...	...	...	...	...	...	...	...	—	—
192.	A.—Over fatigue	...	...	...	...	...	...	...	...	2	1
	B.—Hunger or Thirst	...	...	...	...	...	...	...	...	3	2
193.	Exposure to Cold, Frost bite, etc.	...	...	...	...	...	...	...	...	—	—
194.	Exposure to Heat—										
	Heatstroke	...	...	...	...	...	...	...	...	—	—
	Sunstroke	...	...	...	...	...	...	...	...	2	—
195.	Lightning Stroke	...	...	...	...	...	...	...	...	24	4
196.	Electric Shock	...	...	...	...	...	...	...	...	—	—
197.	Murder by Firearms	...	...	...	...	...	...	...	...	—	—
198.	Murder by cutting or stabbing Instruments	...	...	...	...	...	...	...	...	—	—
199.	Murder by other means	...	...	...	...	...	...	...	...	—	—
200.	Infanticide (murder of an infant under one year)	...	...	...	...	...	...	...	...	—	—
201.	A.—Dislocation	...	...	...	...	...	...	...	...	169	26
	B.—Sprain	...	...	...	...	...	...	...	...	1,315	53
	C.—Fracture	...	...	...	...	...	...	...	...	541	274
202.	Other external Injuries	...	...	...	...	...	...	...	...	26,442	1,456
203.	Deaths by Violence of unknown cause	...	...	...	...	...	...	...	...	—	—
XV. ILL-DEFINED DISEASES.											
204.	Sudden Death (cause unknown)	...	...	...	...	...	...	...	...	1	1
205.	A.—Diseases not already specified or ill-defined—										
	Ascites	...	...	...	...	...	...	...	...	77	25
	Edema	...	...	...	...	...	...	...	...	144	16
	Asthenia	...	...	...	...	...	...	...	...	470	67
	Shock	...	...	...	...	...	...	...	...	3	2
	Hyperpyrexia	...	...	...	...	...	...	...	...	2	1
	B.—Malingering	...	...	...	...	...	...	...	...	201	14
XVI. DISEASES, THE TOTAL OF WHICH HAVE NOT CAUSED 10 DEATHS, INCLUDING N.A.D. AND N.Y.D.											
		...	...	...	...	...	...	...	...	1,502	221
Total, Sections I to XVI										661,658	28,525
Examinations										351,751	—
GRAND TOTAL										1,013,409	28,525



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